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Vol. LXXXV, No. 3 JULY 21, 1927 Per annum $4.00 Per Copy 10 Cents

"Ecco" English China
CLAYS

ECCO
CLAYS
TRADE MARK

UNIFORM -- SUPERIOR
DEPENDABLE

ENGLISH CHINA CLAYS SALES CORP.
551 Fifth Avenue NEW YORK

Wire Can Be Pitched Without Affecting Inlet Adjustments

Four power operated jacks are installed on each side of the Keystone Fourdrinier, which lower the Table Roll and Suction Box Sections independently, in two separate units, onto the rails when making wire changes. These jacks are also used for pitching the wire. The Breast Roll is not moved, but instead the two center jacks on each side are raised or lowered, thereby giving the desired pitch to the wire without disturbing the inlet adjustment.

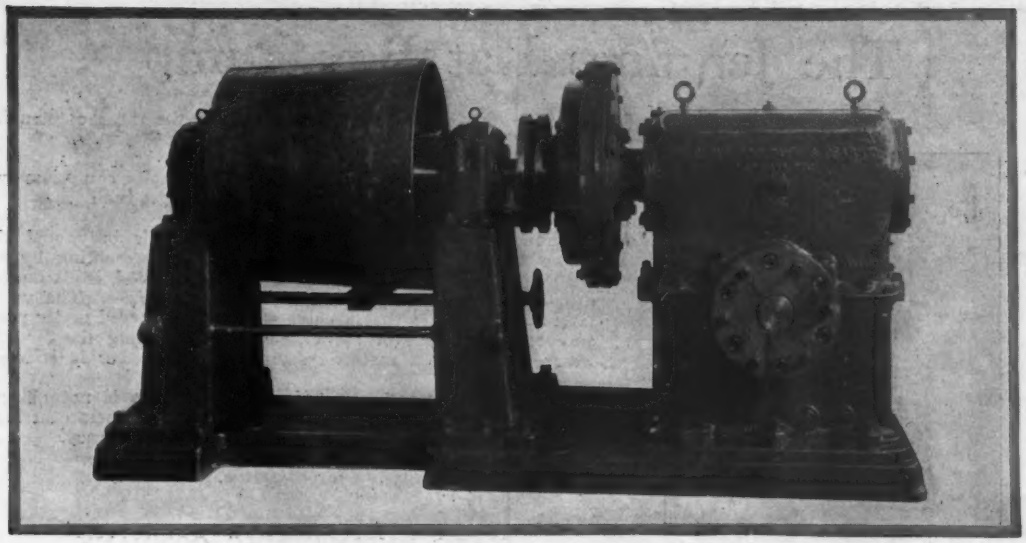
This is only one of the exclusive advantages obtainable in the Keystone Fourdrinier. Write us for complete information, list of users and ask us to explain the advantages of removing in two sections and how the wire can be changed without affecting inlet adjustments,—no obligation. When you need a Fourdrinier machine to make News, Kraft, Book, tissue or Specialties, let us bid on your requirements.

Our Products Meet Our Promises

KEYSTONE Fourdrinier

Downingtown Mfg. Co.-East Downingtown, Pa.

Entered as second class matter August 13, 1925, at the Post Office at East Stroudsburg, Pa., under Act of Congress of March 3, 1879. ESTABLISHED 1872 FIFTY-SIXTH YEAR Published every Thursday by the Lockwood Trade Journal Co., at 34 N. Crystal St., E. Stroudsburg, Pa. EXECUTIVE AND EDITORIAL OFFICES: 10 EAST 39th STREET, NEW YORK CITY. CHICAGO: 123 West Madison Street, Chicago, Ill.



Cleveland Worm Gear Section Drive installed on an old machine at the Paul A. Sorg Paper Company, Middletown, Ohio.

Compare This Section Drive With Open Gears

Cleveland C.W.&G.C. WORM GEAR REDUCTION UNITS

Standard Cleveland units are manufactured in capacities ranging from ½ to 150 horsepower and in a great variety of speed reduction ratios. They have proved successful for all sorts and sizes of paper mill machinery.

The paper machine section drive shown in the above picture is being eagerly adopted by paper manufacturers throughout the country. At a comparatively small cost it reduces maintenance charges greatly and eliminates production delays. In addition, it provides an efficient, clean, self-lubricated and easy-running drive.

The heart of the drive in the Cleveland Worm Gear Reduction Unit—the first worm gear drive to meet completely the requirements of paper machine operation. Cleveland worm gears have been tested through years of actual paper machine service and are now installed in the drives of thirty-seven machines with complete satisfaction.

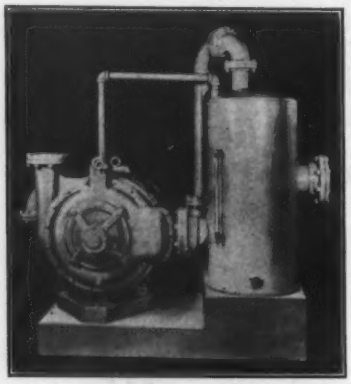
In a Cleveland drive you not only get the best of worm gear equipment but its successful performance is also insured by our years of experience in this field. The drive can be installed on a single section or an entire machine with equal facility.

We can furnish a complete drive with pulley and magnetic clutch, as shown above, or a standard reduction unit alone, to be incorporated in the drive by your machine builder or engineers.

CLEVELAND WORM & GEAR COMPANY

3291 EAST 80th STREET **CLEVELAND, OHIO**

The Jennings Flat Box Pump



The new Jennings Flat Box Pump, for removing water and air from flat boxes.

Compactness, economy and efficiency are the three outstanding characteristics of the new Jennings Flat Box Pump.

Compactness,—because the Jennings Pump really comprises two pumps, an air unit, and a water unit, in a single casing.

Economy,—because the air pump removes air only, and the water pump handles the water. The air, representing by far the larger part of the total volume of fluid handled, is discharged ***directly to the atmosphere without back pressure.*** The water may be returned to the machine well, or discharged under pressure to the beaters or stock chest. By handling the air and water separately, a material saving in horsepower is effected.

Efficiency,—because the centrifugal water pump is not obliged to handle air with the water. Therefore it can operate at high efficiency. Similarly, the air pump has high efficiency.

For complete facts, write for literature.

NASH ENGINEERING COMPANY
164 Wilson Road So. Norwalk, Conn.

New England Representative
Mr. G. H. Gleason, Nottingham Bldg., Copley Square, Boston, Mass.

Western Representative
Mr. T. H. Savery, Jr., 80 E. Jackson Blvd., Chicago, Illinois

Jennings Pumps

THE "RAINSTORM" SHOWER PIPE

MANUFACTURED BY

THE SMITH & WINCHESTER MFG. CO.

SOUTH WINDHAM, CONN.

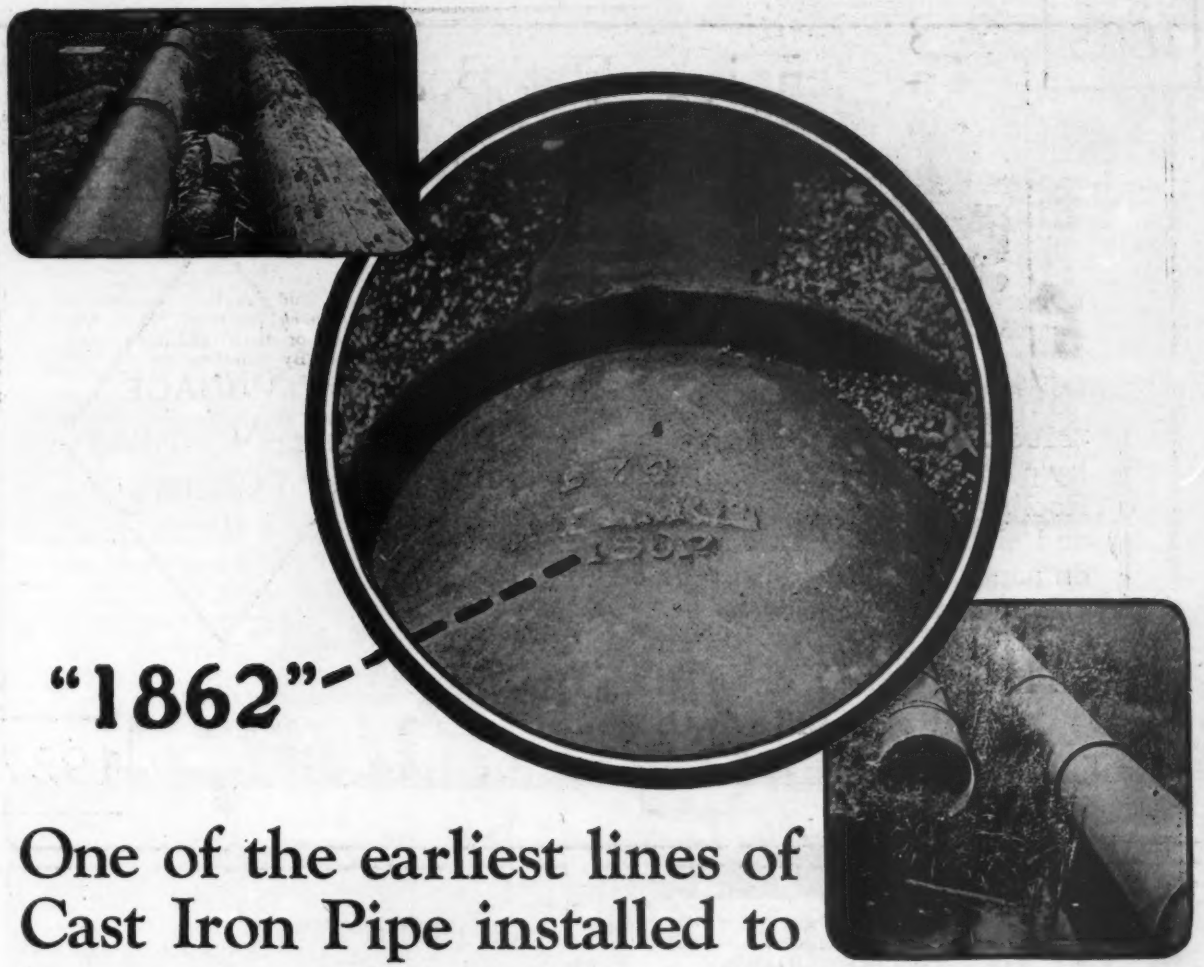
ESTABLISHED 1828

A Complete Line of Paper Bag Making Machinery

BUILDERS OF DEPENDABLE MACHINERY FOR THE PAPER MILL

The Undercut Trimmer

Die Cutting Presses



One of the earliest lines of Cast Iron Pipe installed to insure continuous service

This line runs across salt marshes. It demonstrates the high resistance of Cast Iron Pipe to corrosion.

After sixty-five years under these conditions, the line shows not the slightest sign of weakness anywhere.

Write for U. S. Cast Iron Pipe handbook. It contains necessary data for construction engineers.

United States Cast Iron Pipe and Foundry Company

SALES OFFICES

Philadelphia: 1421 Chestnut St.
Chicago: 122 So. Michigan Blvd.
Birmingham: 1st Ave. & 20th St.
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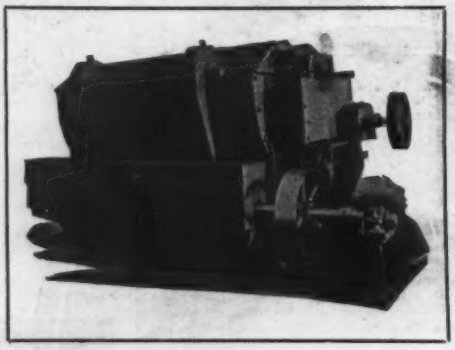
1885



"MOORE & WHITE"
ROTARY SCREEN

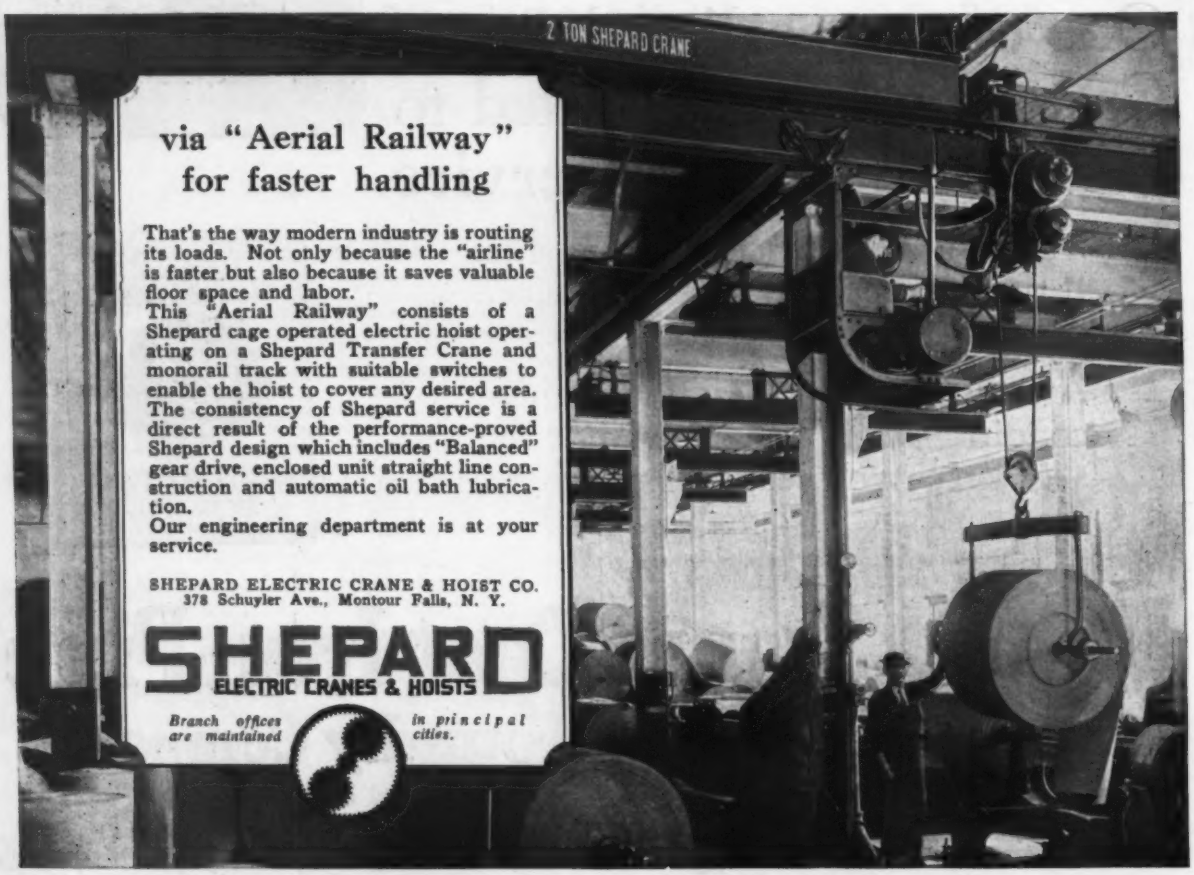
TONNAGE
CLEANLINESS
ECONOMY

"Moore & White" Screens produce quality paper whether used on Tissues, Kraft, Roofing Manilas or Book Paper. Lumps and slime spots are eliminated. Breaks on paper are thus prevented and continuous operation is assured.

THE MOORE & WHITE CO.
PHILADELPHIA, U. S. A.

CATALOG ON REQUEST

1927



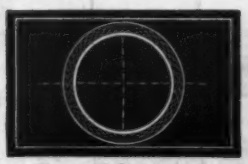
via "Aerial Railway"
for faster handling

That's the way modern industry is routing its loads. Not only because the "airline" is faster but also because it saves valuable floor space and labor.
This "Aerial Railway" consists of a Shepard cage operated electric hoist operating on a Shepard Transfer Crane and monorail track with suitable switches to enable the hoist to cover any desired area. The consistency of Shepard service is a direct result of the performance-proved Shepard design which includes "Balanced" gear drive, enclosed unit straight line construction and automatic oil bath lubrication.
Our engineering department is at your service.

SHEPARD ELECTRIC CRANE & HOIST CO.
378 Schuyler Ave., Montour Falls, N. Y.

SHEPARD
ELECTRIC CRANES & HOISTS

Branch offices are maintained in principal cities.



Years of Continuous Service

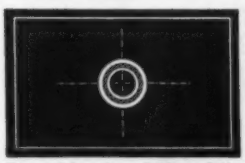
"The Goodyear 2½-inch style M water hose carrying the residue from our plant to our marsh, has been in service continuously since September, 1924. It has handled approximately 19,000 tons of solid and 78,000 tons of liquid at a temperature of approximately 110 degrees Fahr. Apparently good for considerable further service."—The Kreba Pigment and Chemical Company, Newport, Del.

Good Satisfaction Always

"We have used Goodyear braided air hose exclusively for a period of five years on such various operations as chipping and grinding. We adopted it after making thorough tests of several of the other leading makes of hose. We have also used Goodyear sand blast hose for three years, and it has given us good satisfaction."—Treadwell Engineering Company, Allentown, Pa.

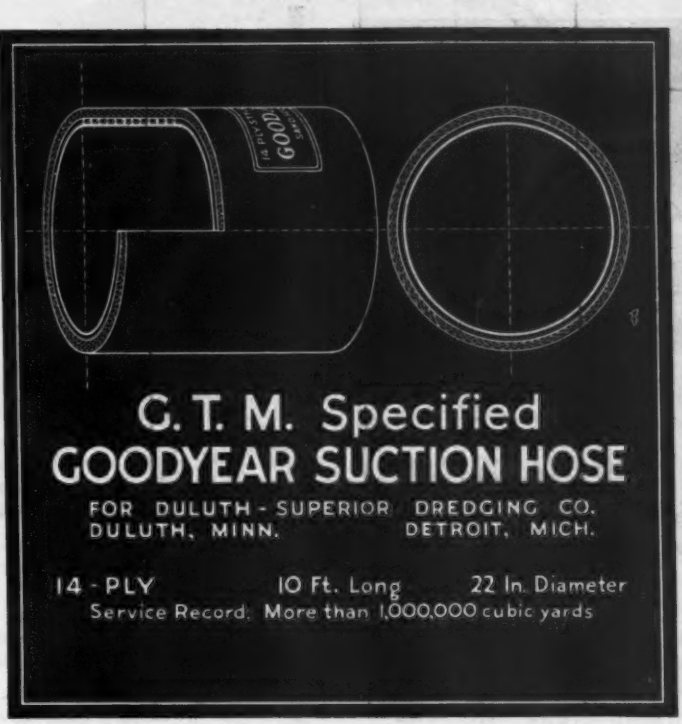
Fewer Replacements

"Our spraying pressure has increased during the past several years from 200 lbs. to as high as 500 lbs. Several makes of hose we know of are improved, but with us the Goodyear Hose is exceptional. We handled approximately 10,000 feet of it last season, and were not asked in a single instance to replace a piece of Goodyear Spray Hose."—Wells & Wade, Wenatchee, Wash.



Extra Months of Hose Life

"The average life of 14 lengths of Goodyear Air Hose in our service is 2 years, 4 months, 20 days. Of six test hoses of another make, the average life was 1 year, 1 month, 3 days. Of still another make, one test hose wore out at 1 year, 9 months, 16 days; of eight out of nine pieces of a fourth make, 1 year, 9 months, 8 days; one piece, spliced to a Goodyear Hose, at 2 years, 8 months."—Superior & Boston Copper Co., Copper Hill, Ariz.


GOODYEAR
G. T. M. Specified
GOODYEAR SUCTION HOSE
FOR DULUTH - SUPERIOR DREDGING CO.
DULUTH, MINN. DETROIT, MICH.
14 - PLY 10 Ft. Long 22 In. Diameter
Service Record: More than 1,000,000 cubic yards

The right hose for your job —and the G. T. M.

Not all hose is made in the same way. Nor should it be. Some must be built to withstand severe abrasion from without, or high pressure from within, or both simultaneously. Other hose must carry steam, or acids, or provide a leakless line for air. Still other hose should have sanitary construction and looks for its first requirements.

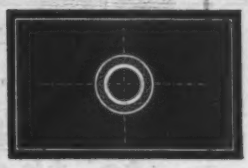
To give you the service you require—to give you that service economically, efficiently and over the longest period of time—your hose should be built to your particular needs. The right basis for that kind of hose construction is expert specification to the job.

The Goodyear Analysis Plan is the scientific means by which Goodyear helps users of hose to determine exactly what hose construction will serve them best. The application of this analysis plan is entrusted to the G. T. M.—Goodyear Technical Man.

The G. T. M. is an expert on hose. He is familiar with the hose requirements of many industries. In co-operation with your plant officials, he will be glad to analyze your hose problems and help work out a system of conservation to prolong the life of your hose. His successful application of *the right hose for the job* is demonstrated in the testimonials that frame this page, and in hundreds of others like them. If you are interested in getting the right hose for your operations, you can get in touch with the G. T. M. by writing to Goodyear, Akron, Ohio, or Los Angeles, California.

One Length Outwears Two Others

"The white-covered Sanitary Hose which we purchased from you for machine washup purposes has given us the best service of any hose we have used. One length of this hose, which is now in service in our machine room, has outworn two lengths of other hose and is still in service."—Mac Sim Bar Paper Company, Otsego, Mich.

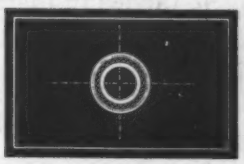


Four Years of Goodyear Service

"We have been using Goodyear Style "M" and Wingfoot Air Hose, together with Goodyear Style "M" Steam and Style "M" Water Hose, for the past four years, and have found them very reliable and the service rendered has been most satisfactory. Furthermore, we have experienced no delay in our work, due to hose failure in that time."—Dick Construction Company, Inc., Hazelton, Pa.

"We Use Goodyear Welding Hose

"We have been using Goodyear welding hose for a considerable length of time, and find it to be suitably adapted for our particular line of railroad car work. We use it both in our shop and on the outside, where it is subject to the elements and hard usage."—Canton Car Company, Canton, Ohio.



Three Years vs. Six Months

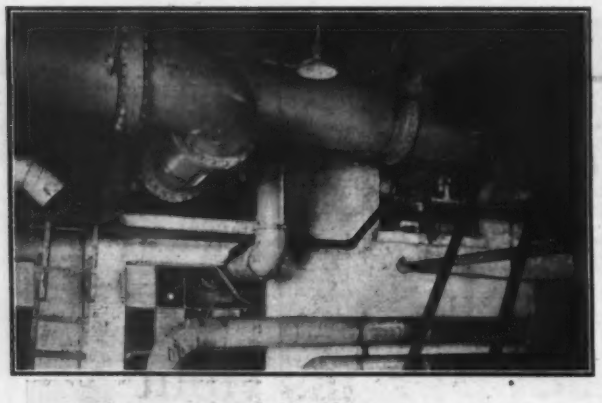
"We bought hose for washing sludge out of polishers and saws from every salesman who came along with the best hose made. Most of it lasted a week or so; the best, six months. Your G. T. M. checked over the situation, and recommended Goodyear Sanitary Hose. Still in excellent condition after three years. All our machines are now Goodyear equipped."—Montello Granite Co., Montello, Wis.

The Greatest Name in Rubber

HOSE : PACKING VALVES : BELTS

GOODYEAR

Copyright 1927, by The Goodyear Tire & Rubber Co., Inc.



Carrying wood pulp to the screens

THE illustration shows a large Taylor spiral riveted pipe conveying 12,000 gallons per minute from the ground wood mixing tank to the screens.

Many paper and pulp mills are using Taylor spiral riveted pipe. Because of its light weight, strength and long life, it is especially fitted for this service.

It is highly resistant to corrosion and rust because it is made of copper bearing steel. In addition, pipe for paper mill work is hot galvanized, which again adds to its long life.

Taylor pipe is made in sizes from 3 to 42 inches in diameter and in lengths up to 40 feet.

We have a catalog of Taylor Pipe and Taylor flanges. Write for it.

AMERICAN SPIRAL PIPE WORKS

Main Office and Works:
Chicago, Illinois, P. O. Box 485
New York Office: 50 Church Street

TAYLOR *Spiral Riveted* PIPE

PTJ 7-21-Gray

The experience is in the clutch!

WHY take a chance on faulty acceleration—when you can install clutches that automatically pick up the load smoothly?

Why not use clutches on your heavy drives that are independent of your employees' skill or experience?

Cutler-Hammer Magnetic Clutches simplify the starting problem to a simple touch to a convenient push-button. The "fourth hand" can do it as well as the Plant Electrician—the skill and experience are built in the clutch itself.

It means decreased maintenance—fewer shut-downs—a saving in time. As your first step, just put a card in the mail today asking for the C-H Clutch Booklet that shows many applications in full detail.

The CUTLER-HAMMER Mfg. Co.
Pioneer Manufacturers of Electric Control Apparatus
1226 St. Paul Avenue
MILWAUKEE, WISCONSIN

C-H Clutches in the plant of the Frank Smith Paper Co.

CUTLER HAMMER
Industrial Efficiency Depends on Electrical Control

A Mine of Useful Information

Lockwood's Directory

of the Paper and Pulp and Allied Industries

1927 Edition now ready for distribution

(52nd Annual Edition)

Price $7.50 anywhere, charges prepaid

(or $7.00 cash with order)

This most carefully compiled and useful directory of over 1,000 pages has been thoroughly revised and brought up to date

Entire contents classified under separate headings for the United States and Canada, alphabetically and geographically arranged by states

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Classified List of Pulp Mill Products
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Envelope Manufacturers
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Paper Merchants
Paper Stock and Rag Dealers
Paper Bag Manufacturers
Paper Box Manufacturers
Paper, Wood Pulp and Chemical Fiber Mills of the United States, Canada, Cuba, Mexico and South America
Paper Specialties Manufacturers
Papeterie Manufacturers
Prepared Roofing Manufacturers
Rags and Paper Stock Consumed by the Paper Mills
Stationers in United States, Porto Rica, Canada, Cuba, Hawaiian Islands and the Philippine Islands
Statistical Table of Mills
Tablet Manufacturers
Tag Manufacturers
Toilet Paper Manufacturers
Trade Associations
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THERE IS A SPECIAL TRAVELLERS' EDITION for use of traveling men, comprising the Paper and Pulp Mills, Coating Mills and the Mill Officials. Price $7.50, including delivery charges, or $7.00 cash with order.

Published for 52 continuous years by

Lockwood Trade Journal Co., Inc.

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You can use this great and complete directory continuously to advantage in your business. Order now.

ORR ENDLESS FELTS

The Orr felts are recognized as most important factors in the production of more and better paper at a lower cost per ton.

These felts are manufactured from wools carefully selected, covering a large experience in manufacturing.

Needless to say they insure satisfactory service.

It is possible to weave these felts Endless up to eighty-six feet.

We request a trial, which will prove to your advantage.

Samples of grades required sent upon request.

The ORR FELT & BLANKET COMPANY

Piqua Ohio

No more felt cleaning troubles

A CERTAIN paper mill was having difficulty in cleaning felts that were badly caked with sizing. The soap and soda ash used for washing them often caused spots of insoluble soap to appear on the felts, resulting in imperfections in the finished paper.

Now, with the aid of Oakite cleaning materials this difficulty has been overcome. Cleaning the Oakite way removes every trace of sizing and other foreign matter, leaving the felt soft and porous. Moreover, the quick action and free rinsing qualities of Oakite save considerable time in cleaning.

If you have a similar or any other cleaning problem, ask to have one of the Oakite service men help you. No obligation.

OAKITE IS MANUFACTURED ONLY BY

OAKITE PRODUCTS, INC., 48A Thames St., NEW YORK

(Formerly OAKLEY CHEMICAL CO.)

Oakite Service Men, cleaning specialists, are located at:

Albany, Allentown, Pa.; Altoona, Pa.; *Atlanta, Ga.; Baltimore, *Birmingham, Ala.; *Boston, Bridgeport, *Brooklyn, Buffalo, *Camden Charlotte, N. C.; Chattanooga, Tenn.; *Chicago, *Cincinnati, *Cleveland, *Columbus, Ohio; *Dallas, *Davenport, *Dayton, Decatur, Ill.; *Denver, *Des Moines, *Detroit, Erie, Pa.; Flint Mich.; Fresno, Cal.; *Grand Rapids, Harrisburg, Hartford, Houston, Texas; *Indianapolis, *Jacksonville, Fla.; *Kansas City, *Los Angeles, Louisville, Ky.; *Memphis, Tenn.; *Milwaukee, *Minneapolis, *Montreal, Newark, Newburgh, N. Y.; New Haven, *New York, *Oakland, Calif.; *Omaha, Neb.; *Philadelphia, *Pittsburgh, Portland, Me.; *Portland, Ore.; Providence, Reading, *Rochester, Rockford, Rock Island, *San Francisco, *Seattle, *St. Louis, South Bend, Ind.; Syracuse, *Toledo, *Toronto, Trenton, N. J.; *Tulsa, Okla.; Utica, *Vancouver, B. C.; Williamsport, Pa.; Worcester.

**Stocks of Oakite materials are carried in these cities.*

OAKITE

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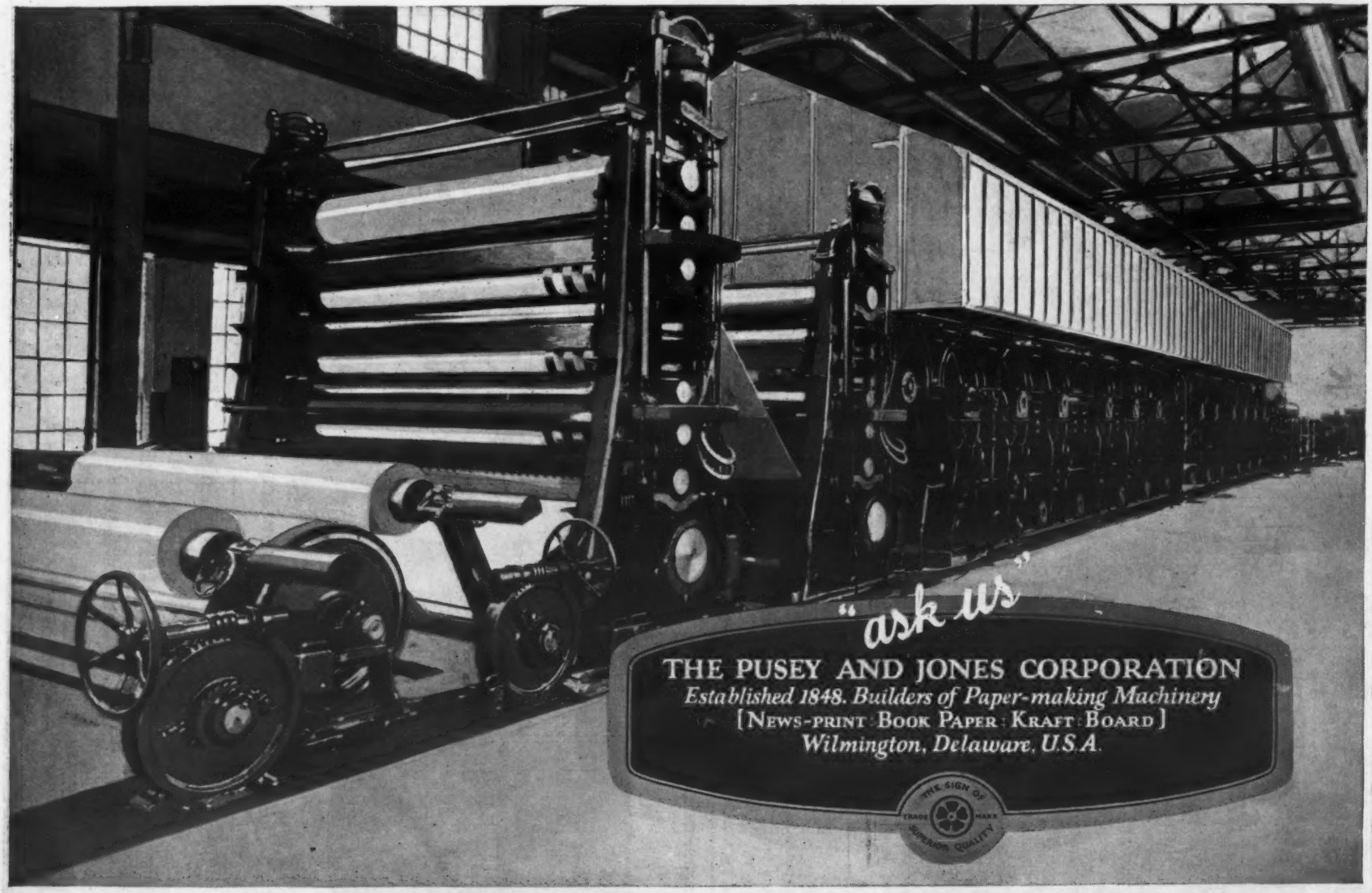
Industrial Cleaning Materials and Methods


"ask us"
THE PUSEY AND JONES CORPORATION
Established 1848. Builders of Paper-making Machinery
[NEWS-PRINT · BOOK PAPER · KRAFT · BOARD]
Wilmington, Delaware, U.S.A.
THE SIGN OF TRADE MARK SUPERIOR QUALITY

Illustrating the 152-inch Book Paper Machine designed and built by The Pusey and Jones Corporation for the Everett Pulp and Paper Company, Everett, Washington . . . This is the third Puseyjones Machine built for this company and is one of four Puseyjones Book Paper Machines built in 1926.

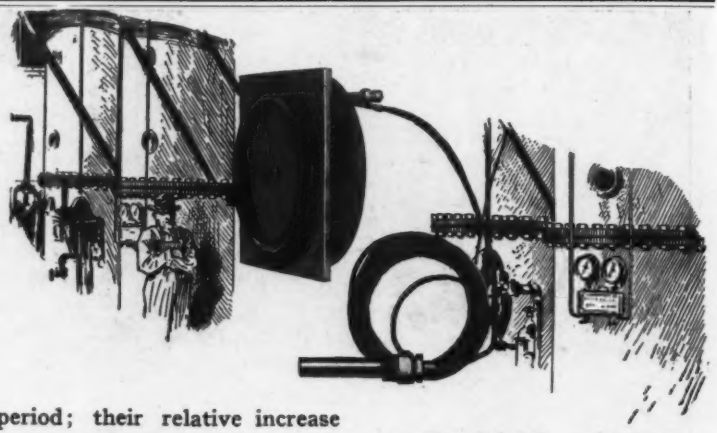
Entire contents of this advertisement copyrighted 1927 by The Pusey and Jones Corporation, Wilmington, Delaware, U. S. A.

This Double Record

Insures More Uniform Pulp Quality

The quality of pulp produced in the sulphite process depends on how well temperature and pressure conditions are controlled in the digesters. More uniform cooks, and very often a shorter cooking time, can be secured by placing the guidance of Recording Thermometers before the operator.

Especially applicable is the Bristol's Two-Pen Recorder, which provides a record of both temperature and pressure ON THE SAME CHART. Having both factors shown continuously in direct comparison enables the operator to keep them under close observance for the entire cooking period; their relative increase being accurately controlled according to the most desirable schedule. A further use is the valuable data made available to the superintendent or chemist concerning the reaction of different woods to given cooking schedules.



The Bristol's equipment used is simple, and rugged, requiring little attention through years of service. Let Bristol Sales Engineers analyze your needs and aid in selecting the right equipment.

The Bristol Company — *Waterbury, Connecticut*

FOR 38 YEARS — Ask Any Technical Engineer — MAKERS OF

BRISTOL'S RECORDING INSTRUMENTS

There is Only One Standard of Quality in the Manufacture of

DIAMOND ALKALIES

ALKALI

There Are Convenient Warehouse Stocks Near You

Manufactured from the purest raw materials obtainable, processed in completely modern plants, subjected to exacting laboratory tests at every stage of manufacture, Diamond Alkalies are a constant assurance that quality standards shall be maintained.

DIAMOND ALKALI COMPANY · PITTSBURGH, PA.

Preferred Paper-Mill Roofs—for these 5 Good Reasons

The West Virginia Pulp & Paper Company, for instance, have decked one after another of their mill buildings with Pyrofill Monolithic gypsum systems. Many other leading mill operators have done the same. The reasons are interesting to every paper manufacturer:

FIRST—Its insulation values, making it possible to control "inside rain" effectively and reduce heating costs.

SECOND—*Firesafety*, since gypsum is an absolute barrier to fire. It will neither burn, catch fire nor transmit flame.

THIRD—Lightness. Weighs 55 lbs. per cubic foot, thus permitting substantial savings in steel by reducing the dead-load.

FOURTH—Economy and permanence are such that Pyrofill represents invariably a real saving in first cost and practically eliminates maintenance.

FIFTH—Illumination costs less because the Pyrofill slab is an excellent light reflector.

The photograph shows how Pyrofill Gypsum Monolithic Roof Deck is applied.

USG Engineers will gladly consult and co-operate with you without obligation on your part. Send the coupon for complete facts and details for your files.

UNITED STATES GYPSUM COMPANY
General Offices
Dept. E, 300 West Adams Street, Chicago, Ill.

Reg. U. S. Pat. Off.

PYROFILL

MONOLITHIC ROOFS AND FLOORS

Made by the United States Gypsum Company

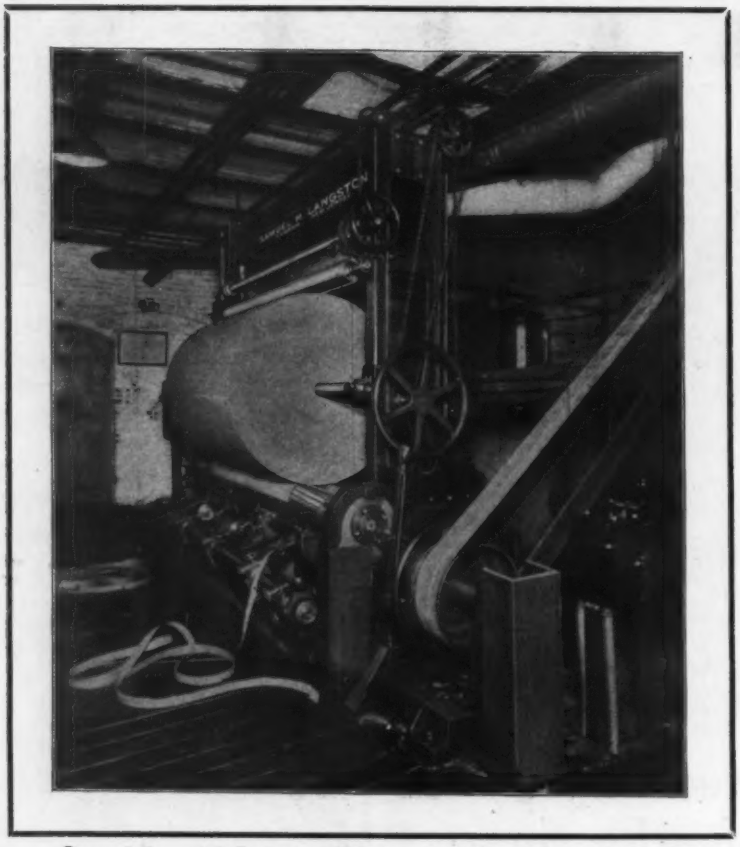
USG

MAIL THIS COUPON NOW

United States Gypsum Company
Dept. E, 300 West Adams Street, Chicago, Ill.
Please forward your special information on Pyrofill construction for paper mills.

Name.....

Address.....



One of four 82" Langston Winders handling saturating felt in H. F. Watson Company Mill, at Erie, Penna.

Substantial!

Not a pound of material is used in Langston Slitters for the sake of weight alone, but where strength and weight are required material is used generously.

Shafts and drums are large in diameter and made, in most cases, from hammered steel forgings. All gears are of steel or special gear bronze—no cast iron gears are used anywhere in any Langston Slitter.

And every Langston Slitter rests on a heavy bedplate. This means more even weight distribution, lessened vibration and wear and tear, and also helps materially in keeping bearings in permanent alignment.

Substantial construction in every detail is one of the chief factors underlying the exceptionally satisfactory service of Langston Slitters.

Langston Slitters are built in types and sizes to meet every mill requirement. Widths from 30 to 165" and wider.

SAMUEL M. LANGSTON COMPANY, Camden, New Jersey

Herman Goettsch, Klotsche Dresden, Germany — Toronto Type Foundry Co., Ltd. Toronto, Canada — T. W. & C. B. Sheridan Co., Ltd., London, E. C. 1

A. H. COX & COMPANY, INC., SEATTLE, WASHINGTON

CLEAN SHEAR CUT CUT

LANGSTON SLITTERS

EFFICIENCY IN PAPER COLORING

FOR the coloring of bond and cover papers attention is directed to the wide range of National Acid and Direct Dyes. We especially recommend

National Erie Yellow SGP and SRP Conc.
National Croceine Scarlet FP Conc.
National Nigrosine 128 P and 2011

for the efficient production of buff and goldenrod shades.

National Aniline & Chemical Co., Inc.
40 Rector St., New York, N.Y.

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PROVIDENCE CHICAGO MONTREAL
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NATIONAL DYES

PAPER TRADE JOURNAL

ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-SIXTH YEAR

Published Every Thursday by the

LOCKWOOD TRADE JOURNAL CO., Inc.

LESLIE R. PALMER, President — GEO. S. MACDONALD, Vice-President & Treas. — F. K. HOPPIE, Secretary

Executive and Editorial Offices: 10 East 39th Street, New York
Chicago Office: Room 14, Suite 410, 123 West Madison St.

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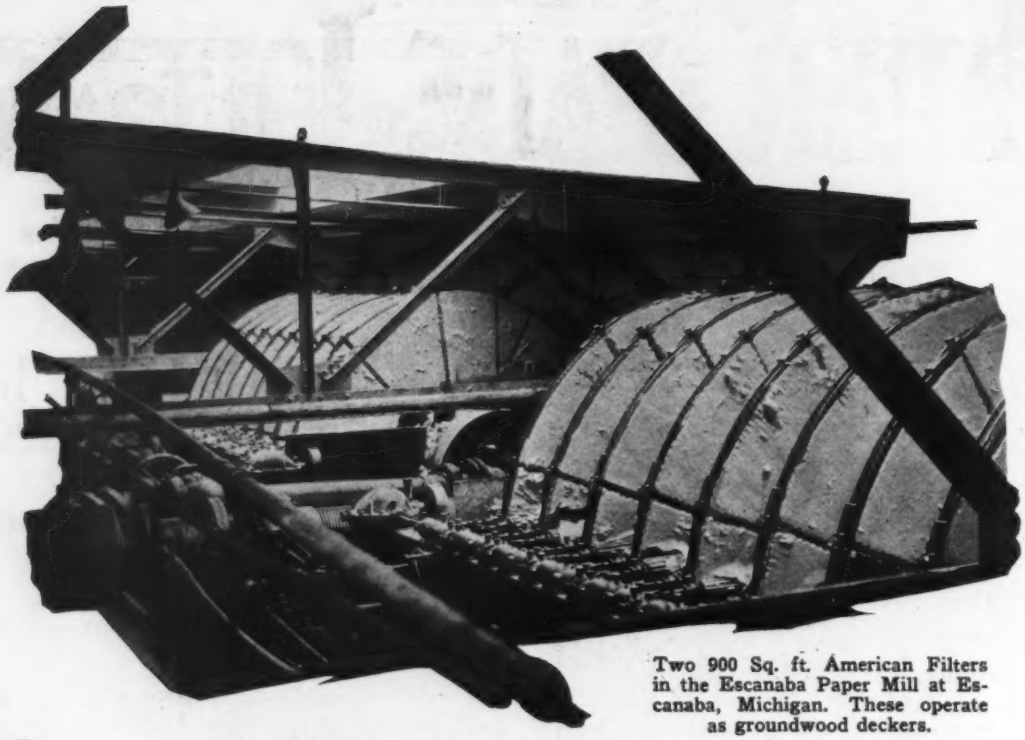

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ESTABLISHED IN 1872

PAPER TRADE JOURNAL

With Which Is Combined

PAPER

The Magazine of the Paper Industry

Vol. LXXXV, No. 3 Thursday, July 21, 1927

Corner Brook Negotiations Almost Completed

Newfoundland Premier Expresses Hope That Measure Authorizing Sale of Great Paper Plant to International Paper Co., Will be Introduced in Legislature Within Coming Week—Only Important Question To Be Settled Is Whether Purchaser Will Pay Income Tax or Royalties on Output—More News Print Mill Construction in Near Future

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., July 18, 1927.—Premier Monroe, of Newfoundland, has informed the Legislature of that Dominion that negotiations with the International Paper Company of New York for the purchase of the great paper plant on the west coast of Newfoundland are practically completed. He said he hoped that a bill authorizing the sale would be introduced within a week. Only one important question remained to be settled, that being whether the company will pay income tax or royalties on its output. The purchase of the mill by the International Paper Company will be the first large scale invasion of the Newfoundland pulp and paper field by American interests. The mills were built by British and Newfoundland interests guaranteed by the governments of the colony and Great Britain.

Another International Co. Deal Rumored

The *Montreal Star* publishes a report that a contest for the control of the Carillon power site on the Ottawa River, a short distance north of Montreal, is going on between the Shawinigan Water and Power Company interests and the International Paper Company, and that the feeling is fairly prevalent that the International Paper Company will win out. The *Star* continues:

"The Carillon situation is regarded as assuming an importance much greater than was generally thought it would since the International Paper interests became interested. The construction of the power developments on the Ottawa River to supply their new news print plant with power brought them into the picture. They will have a surplus of that commodity to dispose of, and as there are no other industries in the immediate vicinity it became necessary to go farther afield.

"The acquisition of the Ottawa-Montreal Power Company, and later the Quebec Southern Power, joins up two scattered fields, and makes the position of International Power paramount in the district west and north of Montreal between this city and Ottawa.

"The Carillon site is thus distinctly in their field, and establishes a strong argument for the International claim.

"What disposition will be made of the power when it is developed a few years hence is also creating a great deal of interest. International is in the power as well as the paper field in a very big way, both in the United States and Canada, and is expanding very rapidly.

"President Graustein is described as a man with great breadth of vision, coupled with considerable ambition and the prediction has been heard in the street that some day the company which he directs will outstrip the United States Steel Corporation in size. This will give an idea of the picture as it presents itself to some people.

"It will be recalled that when International found it necessary to close down a number of their paper mills in the United States, where operations were no longer profitable, and move over into Canada to continue the work on even a larger scale commensurate with the importance and growth of the industry the company, in looking around for employment for their old plants, picked on water power development where this was possible. This gave them a very large interest in the New England power situation, and currents reports from Boston are to the effect that a contest for control there is inevitable with other power interests.

"It will thus be seen that Mr. Graustein has a gigantic task on hand in both countries, which will give full rein to his constructive propensities.

"It is believed in some quarters that International may in a few years loom as a very formidable contender in the power enterprise of more than local scope in these days of long distance transmission when 'juice' can be carried far afield."

Two More News Print Mills

Construction of a news print mill at Murray Bay by the Donahue Brothers is reported to have been started. The mill is to be located beside the pulp mill, and the news print machines for it will be brought from the Tidewater Paper Mills, at Brooklyn, N. Y., which has been idle for some months. In the meantime the pulp produced at the Murray Bay mill is being stored.

Montreal interests are said to be behind a project for building a news print mill of 100 tons capacity daily on the Harricana River, at Amos, Que. Construction work, it is believed, will start before the winter. Power will be obtained from the development on the Bell River, at Senneville, 60 miles away, and pulp will be obtained from settlers in the district. The group interested includes Senator Belcourt, the Hon. Athanase David, W. H. Baldwin, M.P., and Messrs. Brown, of Walter J. Francis & Co., and Balfour, of Balfour, White & Co.

B. C. Lumber Industry Active

The British Columbia lumber industry broke all records in 1926 with a timber cut of 2,900,000,000 exclusive of material used for fuel and farming purposes—an increase of 11.7 per cent over the previous year. Water-borne exports out of the province were 720,000,000 feet, or 130,000,000 feet more than the preceding year; Japan's purchases being 164 per cent greater.

Philadelphia Paper Market Is Unusually Dull

Prevailing Quiet Conditions Generally Attributed to Holiday Season and Excessive Heat—Quotations Continue to Hold Up Well and Outlook for Autumn Is Considered Promising—Building and Container Boards in Excellent Demand

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., July 18, 1927.—As the thermometer soared to the highest record of the early summer the paper trade drooped along in the weltering temperature with a listlessness that was uncommon for this season. While normally the hot weather brings about a lessened activity in the paper market generally, this year there seems to be an unusually dull period for so early in the season.

Prices Firmly Held

Astute paper men are led to believe that the coming Fall will be one of good times and fairer margins of profits by the present firmly held price situation and the conservative attitude of the mills in production. That the mills are prepared for the immediate needs of the trade is indicated by the readiness with which orders are filled. While there is no delay in responding to orders the mills state that they are not overstocked and have been conservatively manufacturing for limited requirements of from two to four weeks advance business in an effort to maintain an orderly market for the industry, without price disturbances.

Dealers Stocks Adequate for Present Needs

Inquiry among the paper houses discloses the fact that the distributors are stocked with sufficient paper to meet the present hand to mouth buyers market. Like the mills, they have sufficient stocks to take care of their summer needs for the standard grades and seasonal requirements, but are not eager to look ahead for the Fall needs until more confidence is established by practical evidence of the betterment that is to come in industrial life.

Coal Situation Clearer

To those paper mills dependent upon the soft coal supply of the State of Pennsylvania for fuel the attitude of the Western bituminous operators in promoting an open shop in their mines is encouraging. The miners opposed to working with the operators in their opposition to higher schedule of wages are being supplanted at the mines by non union workers so that little interference is effective in the supply of the soft coal from the State. During the week several mines that were curtailed because of labor shortage resumed full time operations as the result of the open shop declaration effective last Monday. This, of course, eliminates to a great extent the possibility of fuel shortage and hardships for the paper manufacturers who are supplied from the State fields.

Container Board Mills Active

The container board mills are most prosperous. There is a flourishing market for the grades of paper board that require full time operation on the part of manufacturers specializing in their production. Building boards, too, are much sought at this season. This is particularly true of the compo-board supply. The high wages demanded by plasterers has created a wide spread need for paper board substitutes. The many new paper substitutes in compo boards, with their weather proof, sound proof, water proof, heat and cold resisting qualities, and ruggedness in wood pulp foundations and combinations with other substances that add to their durability and desirableness, have been eagerly sought by the builders as a solution to their problem of high cost of plastering and economy in overhead of construction. Local manufacturers featuring building boards are oversold and cannot meet the demands now on hand from their present capacity, despite the fact that they are running full time and with 24 hour operation schedule.

New Paper Building Tenanted

The recently modernized building devoted to paper distribution and conversion concerns, known as the Prosperity Building, 266-268-270 South American street, owned by Sylvester S. Garrett, prominent wrapping paper dealer, is now entirely tenanted with trade associates and their business affiliations. With the removal of the Hooper Paper and Twine Company to the new location, there are three paper concerns in the structure, with two allied industries, the printing and publishing trades tenants occupying other floors and the Superior Paper Box Company also installing its plant in the building. The Hooper Paper and Twine Company removed its coarse paper and specialty business to the Prosperity Building last week and is now entirely settled for business in its new home. A sprinkler system has been installed in the structure, providing against fire damages and greatly reducing insurance risks on the structure and the business houses occupying this centrally located and modern paper office and warehouse structure.

New Summer Goods for Robertson Company

A specialized line of summer requirements in waxed products is now being featured in the Philadelphia trade by the local representative of the Robertson Paper Company, Inc., of Bellows Falls, Vt. The Robertson Paper Company specializes in wax papers of all description and has adopted a special list of summer wares that are now salable among the paper houses for the convenience of the distributors. They include paper treated for conversion by drinking cup manufacturers, bakers, confectioners, grocery and food product manufacturers, confectioners supplies, meat dealers, soap manufacturers, cigar and tobocco manufacturers requisites, combustible manufacturers, paper ware, department store supplies and many other consumers needs for hot weather. These are being distributed to paper dealers and converters by the manufacturers through a local representative, Ned Hawes, with office in Room 203, Marine Building, Delaware avenue and South street from sample assortments of the complete line now on display. Mr. Hawes has for many years specialized in waxed and glassine paper specialties in the Philadelphia trade, both as manufacturer and dealer.

Morton Gibbons-Neff Honored

With the retirement of Morton-Gibbons Neff from the presidency of the Poor Richard Club during the week, honors in recognition of his services as chief official of the fraternity of advertising men were conferred upon him at a specially arranged function in the Club House at 1319 Locust street. Mr. Gibbons-Neff is well known in the paper trade as former associate of the Dill and Collins Company and son-in-law of its president, Grellet Collins. He served his association with the advertising department of that concern a few months ago to join the advertising firm of Charles Paist, Jr., who succeeds him as president of the Poor Richard Club. At the luncheon given in honor of the retiring president he was presented with a gold watch and chain by the membership. In reviewing the work of the Club under the regime of Mr. Gibbons-Neff, the new president attributes to his efforts the successful campaign now being waged to provide a fitting memorial costing several millions dollars to Benjamin Franklin and the appointment of a committee

with Cyrus H. K. Curtis as honorary chairman to continue the work of securing funds for the erection of the Franklin Memorial along the Parkway. Among the paper dealers who joined in the luncheon and tribute to the retiring executive were President Norbert A. Considine, of the Paper House of Pennsylvania, former vice president of the club, his associate and brother, R. J. Considine, and George W. Ward, of the D. L. Ward Company, chairman of the Direct Mail Advertising Committee of the Poor Richard Club.

Mechanical Units of Glen Mills Removed

Following the sale of the machinery that until recent months was devoted to the production of the fibre specialties of the Diamond State Fibre Company in the historically famous old paper making structure of the Glen Mills, near Philadelphia, the plant is being completely dismantled and shipped to the various companies that purchased the units at the recent Receivers Sale. With the dismantling of the mills, the buildings will remain unoccupied for the time being, after many years of intermittent operation since the days of the American Revolution when they produced the first bank note papers for the Government. Within recent times the mills have been alternately devoted to production of fine papers and wrapping grades, and for the past few years by the Diamond State Company which spent large sums in equipment of a modern type.

Pusey & Jones Corp. Elects Officers

A special meeting of the stock holders of the Pusey and Jones Corporation, of Wilmington, Del., was held during the week for the purpose of electing a president to succeed the late William Griscom Coxe, whose passing took place last Monday. Following the death of former President Coxe, who was elected to that office upon the reorganization of the former Pusey and Jones Company, through receivership proceedings a few months ago, Clement C. Smith, of Milwaukee, was elected his successor. The newly elected president acquired control of the corporation shortly before its reorganization under the corporated interests. Clarence B. Lynch, who has been associated with the corporation, was elected vice president, while C. Stewart Lee, of Wilmington, and C. H. Spedden, of Baltimore, were added to the Board of Directors. Under the reorganization the Pusey and Jones Corporation have continued the manufacture of paper making machinery and ship building, and the plant in the Delaware capital has been augmented to facilitate broader scale of manufacture of paper making equipment.

Direct Mail Leaders Exhibit for Trade Tour

Having collected the most prominent of Direct Mail Ad Campaigns conducted during the past year, the D. L. Ward Company, 28 S. 6th street, is now ready to tour the trade with an exhibition in the various paper houses of the nation, of the 1927 assembly of the fifty best specimens of direct mail matter sent out by nationally known concerns. Before the 1927 Direct Mail Leadership Exhibit is placed in transit of the paper houses of the country it will be on display in the Graphic Arts Department of the D. L. Ward Company. Wall displays and portfolio combinations of the fifty direct mail leaders of the past year are now being shown to the associates and consumer patrons of the Ward Company.

Japan Paper Co. New Stationery Lines

A complete assortment of high grade imported stationery papers have been displayed for the 1927 requirements of engravers, stationers, printers and papeterie manufacturers for the coming Fall demands, by the Japan Paper Company, with Philadelphia offices in the Witherspoon Building, under the management of C. Warnick Miller. The new stationery requirements are imported from the manufacturers in Austria France, Italy and Germany, and are diversified in choice of modish colors and finishes. They also include greeting card stocks in a wide range of brilliant colorings from Austrian markets. A line of lamp shade papers from Italy are among the new novelties in imported paper goods. These are matched in lined envelopes of the latest fancy designs. The Japan Company also has on display an assortment of new fancy tissue linings and wrapping papers for gift and holiday purposes made in France and Germany.

Shryock Mills Increased Production

Having recently completed the modernizing of the power units of the paper board mills at Downingtown, Pa., the Shryock Brothers are now able to speed up production and to increase output. For the purpose of bringing the plant up to date the mills have been equipped with the new Hamilton Corliss engine of 500 hp. The mills are now running on full time in the production of binders, trunk and box boards, lined and unlined, distributed from the Philadelphia headquarters at 926 Cherry street.

Manning Paper Co. Closed by Lightning

[FROM OUR REGULAR CORRESPONDENT]

GREEN ISLAND, N. Y., July 18, 1927.—During a severe electrical storm last Thursday lightning struck an electric power transformer at the George street plant of the Manning Paper Company and deprived the plant of operating power forcing a suspension of operations. The plant was closed for about twenty-four hours while repairs were made. Other than the damage to the transformer the plant did not suffer.

The new mill of the Manning Abrasive Company in Watervliet is rapidly nearing completion. Exterior construction work on the building has been completed and workmen are now engaged in completing the interior. The building is of brick construction and will provide a spacious addition to the Watervliet plant. It is erected opposite Green Island on the Watervliet side of the state basin. The new addition will be used to manufacture abrasive papers and will draw its water supply from the state basin.

The Manning Paper Company which for several months has had plans under way for utilizing the Hudson River as a source of water supply is now completing the installation of pipe lines for the disposal of waste from the Green Island plant. The company last fall completed a flume several hundred feet in length extending from the George street plant to the former Odd Fellows Hall property on the river purchased earlier by the company. The installation of the new system will, it is understood, make the Green Island plant independent of the state basin which formerly furnished its water supply.

To Be Superintendent of Harrisville Paper Co.

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., July 18, 1927.—Announcement was made last week that Philip Bond of Deferiet has been appointed as the new superintendent of the Harrisville Paper Company mill at Harrisville. This formerly was the Diana mill.

About forty men are at work in the mill repairing and putting in new machinery. Mr. and Mrs. Lecox, of Raymondsville, have taken up their residence in one of the paper company's houses. Mr. Lecox has been appointed chief electrician of the plant and his wife has taken a position with the office force.

It is not expected that the machines will be ready to run for several weeks. The type of paper to be made has not yet been determined. Corwin T. Jewell of this city is in general charge of the work being carried on at the mill. A meeting of the directors of the company is expected to be held in the near future, when officers will be elected and mill officials appointed.

To Sell New Castle Paper Products at Auction

[FROM OUR REGULAR CORRESPONDENT]

NEW CASTLE, Pa., July 18, 1927.—John P. Lockhart, receiver, announces that he will sell at public auction Thursday, August 4, the paper mill and equipment of the New Castle Paper Products Corporation. The terms of sales are 10 per cent on day of sale and the balance in cash on confirmation of sale by the court and delivery of the deed in consummation of the sale.

Ontario Paper Mills Reported Fairly Busy

Warehouse Trade Is Seasonably Quiet With Prices, However, Well Maintained — Book and Writing Section of Canadian Pulp and Paper Association and Central Section of Canadian Paper Trade Association Hold Meetings in Toronto—Northern Paper Mills Get Charter

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ontario, July 18, 1927.—Business with the paper mills is brisk at the present time but warehouse trade is seasonably quiet, with a fair number of orders coming in but not in the volume that the distributors would like to see. Prices are well maintained and there are no special features in regard to the market other than those which have prevailed for some time.

An important summer meeting of the book and writing section of the Canadian Pulp and Paper Association was held in Toronto during the past week and the visitors were entertained to dinner at the King Edward Hotel as the guests of the local jobbers. There was also a business session of the central section of the Canadian Paper Trade Association at which a number of internal matters were discussed. In the afternoon, the mill men invited the wholesalers to a golf tournament at the Summit Golf and Country Club, Yonge street, Toronto, where a lively contest was engaged in by teams representing the manufacturers and the jobbers for a handsome cup, which has been donated for annual competition by the Lincoln Pulp and Paper Company, Merritton. The manufacturers were successful in carrying off the trophy this season but the jobbers avow that they will turn the tables next year. In the evening the manufacturers were hosts at a dinner held at the Old Mill, Toronto, and a most enjoyable time was spent in story, speech and song. There was a large representation of the manufacturing and distributing trades from Montreal and the East.

Northern Paper Mills Incorporate

A provincial charter has been granted to the Northern Paper Mills, Limited, with a capital stock of $100,000 and headquarters in Sault Ste. Marie, Ont. The new company is a subsidiary of the Northern Paper Mills, of Green Bay, Wis., and for the present will be occupied with the business of getting out pulp wood from its timber lands, which are located along the Algoma Central Railway. The company already has one camp in operation and is starting another west of Coppell. It is building a railroad branch off from the Algoma Central out to the timber, which will be about three and a half miles long. The wood will be shipped from there to the mill of the company at Green Bay, Wis. The officers of the Northern Paper Mills, Limited, are practically the same as those of the Northern Paper Mills, of Green Bay, Wis.

Merger of Wall Paper Makers

In connection with the merger of four leading Canadian wallpaper companies effected through the efforts of John T. Chasney, representing the Wallpaper Manufacturers, Limited, of England, it is understood that the new organization will be known as the Canadian Wallpaper Manufacturers' Association. It takes in the Watson-Foster Company, of Montreal; Colin McArthur Company, of Montreal; the Reg. N. Boxer Company, of Toronto, and Staunton's Limited, of Toronto. No new financing will be undertaken in connection with the deal, the members of the new company coming in either on a cash and share basis or for new stock only. What cash was necessary to swing the deal was provided by the English company, which has a capitalization of $25,000,000. As far as is known, the Canadian Wallpaper Manufacturers' Association will only be a holding company with the president of each member firm on the executive committee. It is the intention to increase the capacity of the mills and to enlarge the amount of wallpaper made in the factories. For the time being there will be no change in the operations of the individual firms forming part of the association. The presidents of the four companies will retain their positions and no change will take place in the management. Sales forces, as at present constituted, will not be altered.

Improvements at Strathcona Company

The Strathcona Paper Company, of Strathcona, Ont., manufacturer of all grades of box board, building and sheathing papers, reports having had a very good year so far and believes that the remaining months will be equally as good. So far tonnage is considerably ahead of 1926. The company has closed a contract with Wilcox-Babcock-Gildie-McCulloch, of Galt, for a high pressure steam plant, with a boiler of 385 pounds pressure and a steam turbine to generate power. The exhaust steam will be used to run the machine and help dry the paper. At the present time, the company is buying its power from the Hydro-Electric system.

Returns from European Trip

Fred L. Ratcliff, head of the Ratcliff Paper Company, Toronto, and Mrs. Ratcliff, have returned from an enjoyable tour of Europe covering several weeks. Mr. Ratcliff, who is a former president of the Toronto Rotary Club, was one of the delegates to the world convention of Rotary Clubs at Ostend, Belgium, and afterwards spent some time in France, England and other countries.

Urges Early Fall Buying

The Fred W. Halls Paper Company, Toronto and London, has issued a neat folder on Milton Text, India, headed "No Place for a Shotgun." It stresses the necessity of placing printing orders and buying paper for fall requirements several weeks ahead of Exhibition time instead of waiting until the last moment and then expecting rush business to be executed promptly. The company also emphasizes the fact that it has a large and varied supply of Made-in-Canada paper for Printed-in-Canada work.

Good Business Is Reported

The Howard Smith Paper Mills during the past six months set a new monthly production record in their plants and the second quarter of 1927 was one of the best in the history of the organization. All departments showed an improvement during the six months and thus, at the present time, there appears to be littlle doubt that, at the conclusion of the year, earnings will show an increase. The net profits, which will be obtained, will naturally depend on the results which are achieved during the second half of the year and in addition will also depend on the amount the management decides to write off for various reserves.

Notes and Jottings of the Industry

Allan Toy, of the executive staff of the Canada Paper Company, Toronto, has returned after spending his holidays in Orillia and district.

N. L. Martin, of Toronto, secretary of the Canadian Paper Trade Association, is holidaying at his summer home on the French River in Northern Ontario.

John M. Finlay, secretary-treasurer of Ritchie & Ramsay, coated paper manufacturers, Toronto, and Mrs. Finlay, have gone on a water trip to Duluth, Port Arthur and other points.

Fred Halls, Jr., of the London division of the Fred W. Halls Paper Company, Toronto, is spending his summer holidays at Pleasant Point, Sturgeon Lake, Ont.

George C. Winlow, sales manager of the Lincoln Pulp and

Paper Company, Toronto, spent a few days recently at his summer home at Honey Harbor, Ont.

John Martin, of Winnipeg, sales manager of Provincial Paper Sales, Limited, was in Toronto lately calling upon friends in the trade, on his way West.

R. E. Weymouth, of the city sales staff of the Fred W. Halls Paper Company, Toronto, is spending his vacation at various points in Ontario.

Among the wholesale paper dealers of Montreal, who were in Toronto last week attending a meeting of the central division of the Canadian Paper Trade Association were C. H. McFarlane and E. Reynolds of McFarlane, Son & Hodgson; J. B. Brown, of T. B. Little & Co.; Thomas Haverill, of the Haverill Paper Company; Joseph Kruger of the Kruger Paper Company, and J. B. Larkin of the Federal Paper Company.

Several wholesale paper dealers of Toronto have received an invitation to attend the annual outing of Local No. 12, Toronto, Amalgamated Lithographers of America, which will be held at Queenston Heights Park on July 23. A number of paper and allied firms gave generous donations for prizes in the different sporting events.

Cohoes Envelope Co. Expanding

[FROM OUR REGULAR CORRESPONDENT]

Cohoes, N. Y., July 18, 1927.—The Cohoes Envelope Company, Inc., manufacturers of envelopes, carry bags, and similar lines, will in a few weeks mark its tenth anniversary. The company was formed in 1917, its incorporation papers setting its capital at $450,000. Soon after its incorporation the company purchased the eight story brick mill which it now occupies. At the outset a small portion of one floor was used to manufacture the first machine for making a patented envelope. Since then the company has grown until today it occupies the entire eight floors and for several years the business has shown an annual increase of from forty to sixty per cent.

The company now maintains a modernly equipped machine shop as well as a complete printing plant. Several floors are utilized for making the various paper bags and envelopes included in the line. The local company draws its paper from twenty-five American mills and imports about one thousand tons of paper of a quality not obtainable in the United States. Its tenth anniversary will see the plant producing at the rate of more than one million envelopes a day and employing more than one hundred hands.

Boston Paper Demand Seasonal

BOSTON, Mass., July 18, 1927.—The paper market continues fair, and in some quarters members of the trade say that it is unusually good for this time of the year. Prices are unquotably changed. The box board mills have resumed operation, with a moderate volume of business. Chip board is bringing $45 a ton and filled news board $47.50, delivered New England points. Hand-to-mouth buying continues, as is clearly indicated when orders are placed for immediate shipment. Dealers are looking forward to more activity next month, although some feel that business is holding rather well at present.

In paper stock the market is quiet, mixed papers, folded news, mixed shavings and white blank news are moving as usual for this season of the year, but not in large volume. The market for domestic roofing stock seems to be rather strong with the No. 2 grade bringing $1.48 per hundredweight, f.o.b. Boston. Foreign roofing stock is quotable at $1.60 at the dock, Boston, New York and Philadelphia.

Mid States Gummed Paper Co. Elect Officers

CHICAGO, July 18, 1927.—The Mid-States Gummed Paper Co. elected three new officers to their staff at a recent meeting of the Board of Directors. They are: H. H. Ross, Vice President; T. H. Mittendorf, Secretary; John J. Levey, Treasurer.

H. H. Ross went with Mid-States as a salesman in November, 1920. For a time he traveled the Eastern territory and was later promoted to the position of assistant sales manager serving under his brother, W. C. Ross. When "W. C." resigned to become vice president of the A. O. Smith Corporation, "H. H." was again promoted to the position of sales manager.

T. H. Mittendorf went with the Mid-States Gummed Paper Company in March, 1925, to accept the position of sales promotion and advertising manager. Before that time he had been holding a position as sales manager with another organization. In addition to his duties as secretary, he will also continue in his present capacity as sales promotion and advertising manager.

John J. Levey is one of the oldest employees in the Mid-States organization, having gone with them in April, 1919, as office manager and cashier. He has seen the office force grow from a few in number into a complete staff sufficient to handle the correspondence, bookkeeping and other office routine of a $2,000,000 business. Mr. Levey will also continue to function as office manager in addition to his duties as treasuerer.

T. H. MITTENDORF, SEC.

H. H. ROSS, VICE PRES.

J. J. LEVEY, TREAS.

Forestry Legislation Progresses in Wisconsin

Important Measure Before Senate Would Encourage Reproduction of Forest Lands by Lightening Taxes—New Law Would Assist Materially the Conservation of Pulp Wood Supply Another Measure Provides For Stream Pollution Research

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., July 16, 1927.—Forestry legislation which has been advocated in part by the paper manufacturers is making satisfactory progress in the Wisconsin legislature, which is now concluding its biennial session. One of the most important measures, a bill providing for a severance tax on forest lands, has passed the senate and is expected to go the full legislative route without any marked opposition.

The bill is in line with a constitutional amendment adopted by the people within the last year. It encourages the reproducing of forest lands for the future, by making the taxes on such lands as light as possible. Taxes of only a few cents an acre will be levied on timber lands until the timber is cut, at which time the owner will pay a severance tax. This law will mean much in the conservation of Wisconsin's supply of pulp wood, which in the past has been diminishing with such rapidity that there would be none left in thirteen years.

Another bill has passed both the assembly and senate and provides for a conservation commission of six unpaid members to direct all conservation activities in Wisconsin. This takes the commission out of politics, and will be the means of securing further forest regulation in the interest of paper mills, as well as additional research and co-operation on the subject of stream pollution.

Record Output of LaCrosse Boxes

The LaCrosse Paper Box Company, LaCrosse, Wis., is enjoying the largest production in its history, according to a statement given out by officials of the concern. Since removal to a new plant in 1920, the volume has grown steadily. Use of straw board has been abandoned entirely and chip board is used exclusively as the basis of LaCrosse boxes. The most modern machinery in the industry is now in use by this concern. Joseph W. Murphy, a son of Daniel U. Murphy, one of the founders, recently became assistant manager. The latter has returned from active business because of ill health.

George A. Whiting Honored

George A. Whiting, of Neenah, Wis., owner of paper mills at Menasha and Stevens Point, Wis., has been honored by Ripon College, Ripon, Wis., with election as a member of the board of trustees for five years. Mr. Whiting recently made a gift of $30,000 to the college. He also is a trustee of Lawrence College, Appleton, Wis.

Menasha Plant to Be Enlarged

Increasing business has made it necessary for the Menasha Paper Roll Plug Company, Menasha, Wis., to enlarge its plant. A new saw mill is to be erected at once, with a capacity of 18,000 feet a day. This move will add materially to the production of roll plugs. Kenneth F. Lawson is president and general manager of the plant.

Paper Men Attend Industrial Session

Judson G. Rosebush, president of the Patten Paper Company, Ltd., Appleton, Wis., and the Northern Paper Mills, Green Bay, Wis., and M. G. Hoyman and R. Eisenach of the Kimberly Clark Company, Neenah, Wis., were among those attending the industrial institute conducted at the Y. M. C. A. camp at Lake Geneva, Wis., last week end. Mr. Rosebush acted as chairman.

Recreational activities in industry, safety, hygiene and better relations among employees were among the subjects discussed. Lectures were given by Robert W. Campbell, attorney for the United States Steel Corporation, Dr. Frank A. Poole, of the Michigan State Board of Health, and Clarence C. Robinson, of the National Y. M. C. A. boys' work department.

Fox River Mill Improvements

Replacements and repairs are being made at the Fox River Paper Company's mill, at Appleton, Wis. A new roof is being placed on the machine room, and several small additions are being made to the plant. It is estimated that the cost of these changes will be about $20,000. The contract for the work has been awarded to C. R. Meyer & Sons Company.

Fox River Phenomenon

Water power experts are trying to solve a phenomenon which seriously affected water power of mills of the Fox River Valley for an evening this week. The Fox River mysteriously dropped its level 18 inches during a thunder storm. The stream seemed to reverse its course and flow back into Lake Winnebago. It took almost an hour and a half after the storm before the level was restored. Theories are that wind of a peculiar atmospheric change caused the strange situation.

Peshtigo Safety Meetings

Safety meetings have been started at the Peshtigo Paper Company, Peshtigo, Wis., in line with a movement of this kind started recently by P. M. Allen, receiver-manager. Safety representatives have been appointed in each of the 22 departments, and these men will help launch a campaign. Suggestion boxes have been placed in each of the plants so that workmen may express their own opinions as to how to eliminate accidents. A doll with bandages on its head, and crutches, is to be displayed in the department that has a lost time accident until such time as an accident occurs elsewhere.

Witter Buys Berkey Home

I. P. Witter, of Wisconsin Rapids, Wis., formerly an officer of the Consolidated Water Power and Paper Company, has purchased the George P. Berkey home at that city. Mr. Berkey formerly was manager of the Consolidated mill and recently took up a new position in the west.

Cost Accountant Weds

Anthony H. Molepske, cost accountant at the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., and Miss Thelma Young, an office employee of the company, were married this week. The couple is making a honeymoon trip to Duluth and Port Arthur.

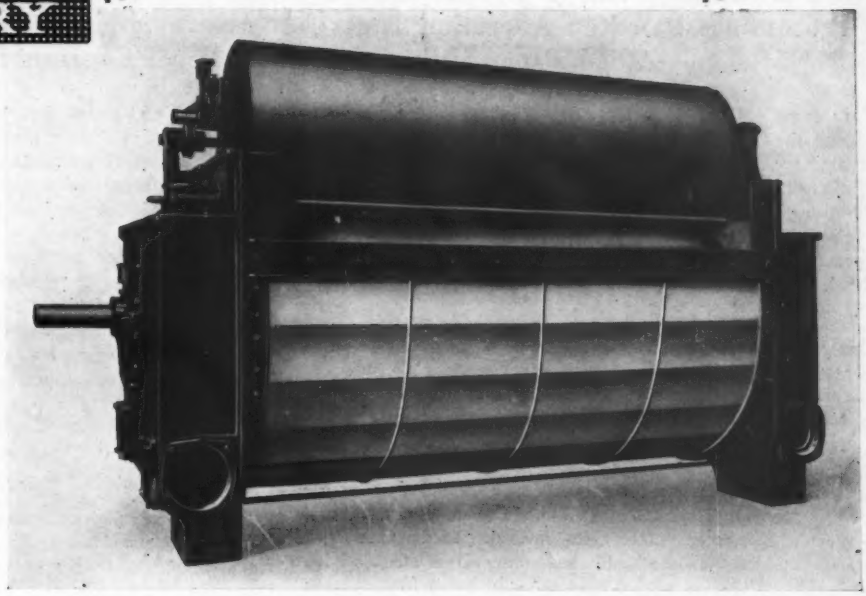
Shipments of China Clay From England Increase

WASHINGTON, D. C., July 20, 1927.—Shipments of china clay from the counties of Devon and Cornwall, England, totaled 67,208 long tons valued at $689,432 in May, 1927, compared with 54,377 tons valued at $547,199 for the same month of 1926, an increase of 12,831 tons or 24 per cent, say advices from Consul A. B. Cooke, Plymouth, made public by the Department of Commerce.

The United States takes about half the china clay exports from these counties. May, 1927 exports to the United States totaled 31,364 tons valued at $321,963 compared with 30,286 valued at $287,942 in May, 1926 an increase of 1,078 tons or 3 per cent.

Chief feature of the trade for May was the exportation to Finland, which took 4,043 tons compared with only 1,370 tons for the whole first quarter.

BIRD MACHINERY



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Michigan Mills Warned About River Pollution

River Raisin Paper Co., Consolidated Paper Co. and Monroe Paper Co. Threatened With Legal Proceedings Based on Allegation That They Are Dumping Their Waste Into the River Raisin—Allied Paper Mills and Chicago Paper Co. Hold Sales Conference

KALAMAZOO, Mich., July 18, 1927.—The River Raisin Paper Company, the Consolidated Paper Company and the Monroe Paper Company are threatened with legal proceedings, based on the allegation that they are dumping their waste into the River Raisin, at Monroe, Mich. A dispatch from Lansing, state capital, is to the effect that these concerns were months ago warned to cease the practice of polluting the waters of the Raisin, but have paid no heed.

Part of State-Wide Campaign

This action, if taken, is part of a state wide campaign instituted by the state health and conservation departments. The initial step has been taken by Attorney General W. W. Potter in filing suit against Lansing. It is pointed out that the state capital city empties all its sewage into the Grand River, thus endangering the health of Grand Ledge, located 12 miles below. Grand Ledge itself also faces similar injunction proceedings, as do the towns of Allegan, Three Rivers, South Haven, Plainwell and St. Joseph. Many, many other cities have also been warned.

In the meantime the state health and conservation officials have let it be known they mean business and will stand for no more delays, on the part of communities or industries. Tests of pollution of waters are now being taken all over the state. These tests will be offered as the basis for statewide action.

While certain cities and industries have apparently made honest effort to eliminate stream and lake pollution, others, state officials claim, have paid no attention to warnings now over a year old. Attorney General Potter says all tardy and delinquent parties now face suits.

Alfred Bryant to Go Abroad

Alfred Bryant after 22 years service with the Bryant Paper Company, has resigned as superintendent of the Milham division and will leave in the immediate future for England, where he will visit his aged mother, now 85 years old and whom he has not seen for the past 26 years.

Mr. Bryant knows the paper business from start to finish. He started as a screen boy and has worked right through every branch of the work to that of superintendent. He went with the Bryant Paper Company when that concern had operated ten years. For some time he was employed in the Superior division.

In going abroad, he will be accompanied by his son, Noah, Jr., who in the fall enters the University of Michigan. Mr. Bryant feels that this trip will broaden his son's view on life.

George Pountain, formerly with the Allied Paper Mills, will fill the vacancy caused by Mr. Bryant's resignation. The latter is at present secretary of the Michigan division of the American Pulp and Paper Mill Superintendents' Association and has been one of the most active in promoting the interests of the local and national organization. Mr. Bryant has no intentions of retiring from business and will return to Kalamazoo in the fall, planning to re-enter the paper industry.

Sutherland Paper Co. Holds Picnic

KALAMAZOO, Mich., July 18, 1927.—Sutherland Paper Company's first annual picnic, held July 11, at Ramona Park, Long Lake, was an unqualified success and brought out an attendance of between 600 and 700, officials and employees and their respective families. The whole day was devoted to fun-making, sports, the usual basket dinner and dancing.

The program opened with a baseball game between girls from the cutting and gluing departments, the score being 14 all in five innings of play. The carton mill employees outpulled the board mill in the tug of war. The single men, captained by Rich Van Bochove, defeated the married men, led by David Eggleston, 6 to 2. The victors received the cup, which must be won three times to be retained.

The photographic contest for the picnic booklet and Warren G. Gerry's rube stunt were mirth provokers, as well as a long program of special picnic games.

The basket dinner and supper was served in the grove, the company furnishing ice cream and coffee. There was an orchestra for the evening dance program, also furnished by the company.

Automobiles for the trip to and from the lake were quite elaborately decorated. The pail department was awarded the special prize for the most unique car decorative feature.

Hold Sales Conference at Kalamazoo

A successful sales conference for representatives of the Allied Paper Mills and Chicago Paper Company has just concluded in Kalamazoo. Plenty of golf and a banquet and luncheon made the time pass rapidly for the 60 representatives present. Salesmen were here from New York, Philadelphia, Cleveland, Indianapolis, Chicago, Detroit, Cincinnati, South Bend and Bloomington, Ill.

The get-together dinner was served at the Kalamazoo Country Club. A. G. Gilman, president of the Allied Paper Mills, welcomed the visitors and introduced the toastmaster, Arthur MacDonald, associate editor of the *Magazine of Business*, one of the Shaw publications. W. N. Gillett, vice president of the Chicago Paper Company, spoke on the Spirit of Co-operation, while Reed Landis addressed the group on the Merits of Commercial Aviation.

There was an inspection trip through the King division of the Allied mills, also a luncheon at the Gull Lake Country Club.

The afternoons of the conference were devoted to golf, with prizes offered low gross, low net scores for 36, 18 and nine holes. Among the winners were: B. A. Judd, Cleveland; Frank Miller, Detroit; P. J. Plunkett, Indianapolis; E. A. Frederickson, Chicago; E. W. Church, Cincinnati; Dudley Morean, Chicago; R. W. Fleischer, Indianapolis and Julian Smith, Chicago.

Made Secretary of Kalamazoo Traffic Club

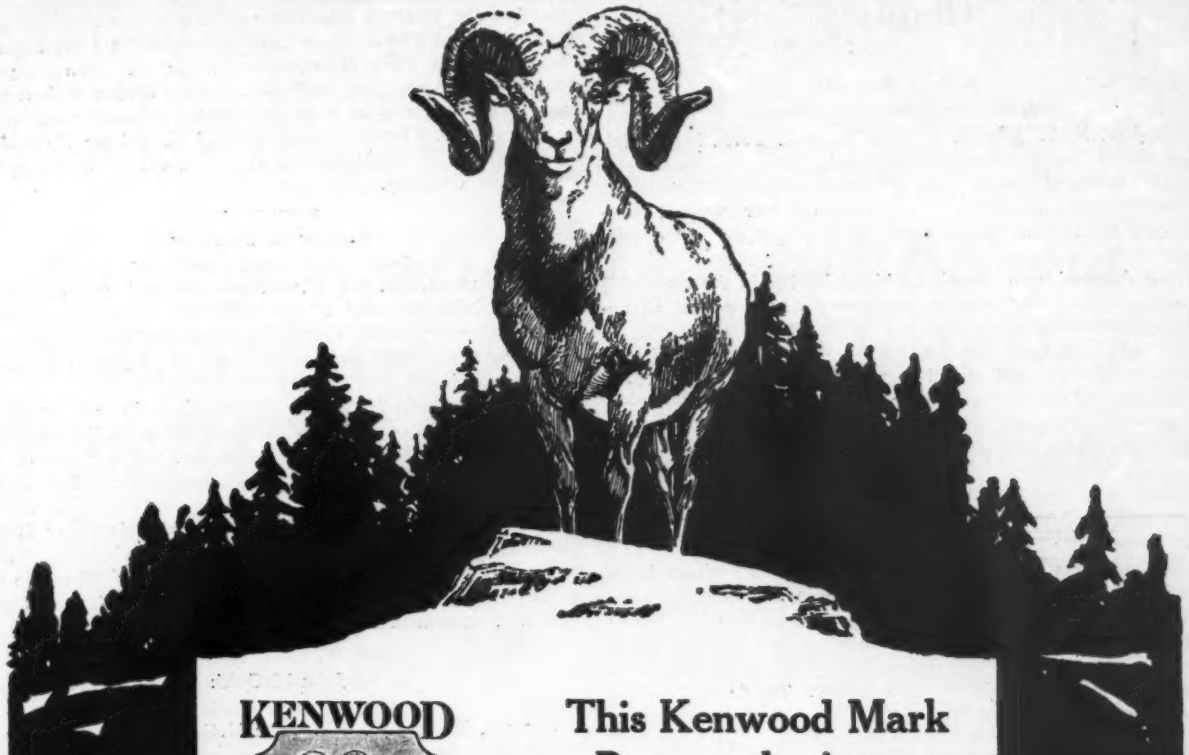
Arnold J. Dunning, traffic manager of the Kalamazoo Vegetable Parchment Company, has been elected secretary of the Traffic Club of Kalamazoo. He succeeds Charles H. Winslow, retired.

To Manage Three River and White Pigeon Plants

John Monahan has been appointed resident manager of the Three Rivers and White Pigeon plants of the Eddy division of the Kieckhefer Container Company. G. G. Otto, vice-president of the Eddy Paper Corporation, and formerly located in Three Rivers, has been moved to Chicago.

Winding Up Affairs of Bradford Paper Co.

Stockholders of the Defunct Bradford Paper Company will receive approximately one cent a share on their respective holdings, after all debts have been paid. This statement is based on a report of the company's condition as of July 11, a statement prepared by Frank S. Chesley, Grand Rapids, public accountant. He showed assets of $6,310.70 and liabilities in excess of $5,500. Dissolution of the corporation has been authorized by Judge George V. Weimer, of the Kalamazoo County Circuit Court. Edward A. Campbell has been appointed receiver.



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Obituary

William N. Tufts

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., July 18, 1927.—William N. Tufts, long identified with the paper making industry, died recently at Cape Vincent in the Thousand Islands near Watertown after an illness which extended over a long period. Mr. Tufts was secretary and treasurer of the Eastern Tablet Company, with a large plant in this city.

The deceased spent practically his entire life in the converting branch of the paper industry and was widely known as an authority on problems affecting this branch of the trade. He became identified with the Eastern Tablet Company more than twenty years ago and served in various capacities at the New York office of the company for many years. His valuable service to the firm earned him steady advancement and a number of years ago he was made a member of the board of directors and elected secretary and treasurer. His administrative ability caused his transfer from the New York city office to have charge of production at the Albany factory and he was instrumental in building up a progressive organization here.

Mr. Tufts was forced by illness to relinquish his business duties several weeks ago although he had been in ill health for more than a year. He had been at Cape Vincent only a short time when his condition took a turn for the worse and he failed steadily until the end. He is survived by his wife, who was with him when he died, two sisters and a brother. The funeral services were conducted at Watertown.

William Allen Pike

[FROM OUR REGULAR CORRESPONDENT]

PITTSFIELD, Mass., July 19, 1927.—William Allen Pike, retired stationery manufacturer, died suddenly Tuesday night of heart disease at his summer home in Stonington, Conn. He had been ill only a few days. The funeral was held Friday morning with burial in Southport.

Mr. Pike began as a clerk in a Bridgeport store and later was employed by Chamberlin, Whitmore & Co. of New York City. In 1893 he was making fine stationery in that city with Bradley A. Hard as a partner. He was induced by Arthur W. Eaton to come to Pittsfield and join with him in organizing the Hurlbut Stationery Company. Mr. Hard withdrew but Mr. Pike, whose original ideas were of great value to the business, remained and helped build up the concern into one of the largest fine stationery manufacturing plants in the world. Mr. Pike originated the phrase "made in Berkshire" as applied to the Company's products.

In 1908 the late Senator W. Murray Crane, Zenas and Frederick G. Crane bought a large interest in the concern and it was reorganized under the name of the Eaton, Crane & Pike Company from which Mr. Pike retired in 1922. He has since devoted much of his time to his Pittsfield real estate interests. He was a Mason and a member of the Christian Science church. He leaves a widow who was Miss Addie Bennett of Bridgeport, Conn.

James F. Lanigan

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., July 18, 1927.—The funeral of James F. Lanigan, who was identified with the manufacture of paper mill machinery, at Lawrence, Mass., was held Saturday at St. Patrick's Church, that city. Mr. Lanigan, who was 83 years old, died Thursday, July 14, at his home in Lawrence, 239 Andover street, after a short illness. He was born in Ireland, December 8, 1845, and was brought here at the age of six months by his parents. In August, 1862, he entered the employ of the Davis foundry, manufacturers of iron castings. In May, 1875, he became superintendent, and in 1892 bought the plant. In 1902 he bought the plant of the Emerson Manufacturing Company, makers of paper mill machinery. Seven years later he bought the Lawrence Machine Company plant, manufacturers of pumps. Both the paper mill plant and the pulp establishment were burned a short time ago. He was a member of the Home Club, the Merrimack Valley Country Club, Lawrence Council, K. of C., and the Holy Name Society of St. Patrick's Church. He was a director of the Arlington Trust Company.

Chester A. Simmons

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., July 15, 1927.—In the passing of Chester A. Simmons, vice president of the Phil-Fibre Company, manufacturers of paper boards, with mills located at Tasker street and Delaware avenue, the industry loses one of its popular associates long identified with the board industry.

His death resulted from a tubercular infection of the glands of the throat and occurred on Sunday of last week, following five months' illness. He was 45 years of age, and was one of the organizers of the Phil-Fibre Company, having founded that business with David Newman a little over eight years ago. Before that time he was associated with the Philadelphia Paper Manufacturing Company, of Manayunk as manager of the fiber container division and plant. He had a wide circle of friends in the industry, many joining in the funeral services from his late home, and the interment in Arlington Cemetery.

John McGuirk

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., July 15, 1927.—John McGuirk, who has been associated with the West Virginia Paper and Pulp Company since October 27, 1902, died suddenly at his home, 19 S. Waller street, Chicago, July 9, from intestinal trouble. Mr. McGuirk started with the West Virginia home office in New York and was employed there for eight years preceding the establishment of the Chicago office, where he has served continuously during the past seventeen years. Mr. McGuirk held the position of credit manager and office manager during his service, and was a member of several fraternal orders and the Credit Association of Illinois. At the time of his death he was 41 years of age. Surviving him are his widow, a daughter, Dorothy, and a son, Frank.

Brotherhood Does Not Hurry Nominations

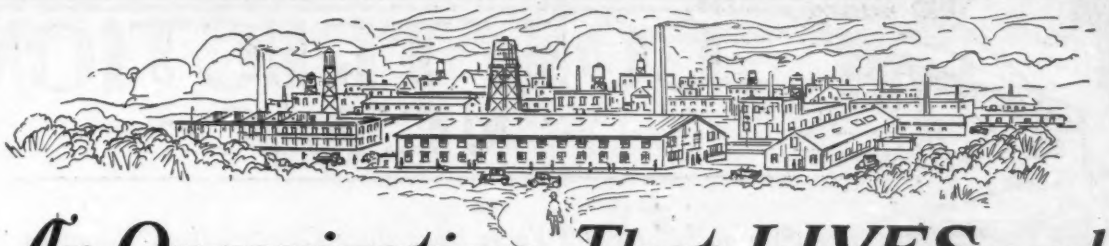
[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., July 18, 1927.—While local unions in the United States and Canada affiliated with the International Brotherhood of Papermakers were notified recently from headquarters in this city that the time for filing of nominations for officers to be elected in October, will expire August 8, to date, no nominations have been received at headquarters here. Although the unions are slow in sending in their nominating petitions it is expected that the usual large number of nominations will be filed. Many of the unions will meet this month and following these meetings action on nominating candidates is expected. The present officers will in all probability stand for re-election and it is understood that at least one complete opposition ticket will be in the field. Under the provisions of the Brotherhood constitution nominations must be filed not later than Aug. 8 after which ballots will be prepared for use at the election in October.

H. C. Jackson Joins National Coated Paper Corp.

[FROM OUR REGULAR CORRESPONDENT]

PAWTUCKET, R. I., July 18, 1927.—The National Coated Paper Corporation of Pawtucket, R. I., at a recent meeting, elected Henry C. Jackson of the Slater Branch, Industrial Trust Company, treasurer to succeed J. M. Salomon, who has relinquished his position with the company. Mr. Jackson is well and favorably known in the financial circles of Rhode Island.



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CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Somerville, Mass.—The Consolidated Paper Bag Company, Boynton Road, has completed plans and will proceed with the construction of a new two-story plant addition, for which a general contract has been let to Nathan Hurwitz, 294 Washington street, Boston. It is estimated to cost close to $50,000, with equipment.

Windsor Locks, Conn.—The Windsor Lock Mills, Inc., has been organized with a capital of $200,000, to take over and operate the former local mill of the Whittelsey Paper Company, and will remodel and improve, with the installation of new equipment for the production of fine papers. The new company, it is understood, will be controlled by officials of the J. L. N. Smythe Company, 30 South Sixth street, Philadelphia, Pa. The incorporators are W. W. Brown, A. W. Hyde and W. G. Parsons, 26 Owen street, Hartford, Conn.

Statesville, N. C.—Jules Albrecht, Statesville, is said to be planning the construction of a new local plant for the manufacture of paper boxes and containers, to be one-story, 45 x 100 feet, reported to cost more than $35,000, with equipment. It is proposed to provide machinery for an output of about 40,000 boxes weekly. It is understood that a company will be organized to carry out the project.

Philadelphia, Pa.—The Walter P. Miller Company, Inc., 452 York avenue, manufacturer of paper boxes and containers, has taken out a permit and will soon begin superstructure for a proposed new plant at Fifth and Noble streets, for which general contract recently was let to the Fred A. Havens Company, 845 North Nineteenth street. It will be four-story, 84x90 feet, reported to cost more than $75,000, with equipment. Harris & Richards, Drexel Building, are architects.

Indianapolis, Ind.—The Standard Paper Company has filed plans for alterations in its building at 54 Kentucky avenue.

Menasha, Wis.—The Menasha Printing and Carton Company, River street, has completed plans and will soon proceed with the construction of a new one-story boiler plant at its mill, reported to cost about $20,000.

St. Louis, Mo.—Sefton, Inc., 59 East Madison street, Chicago, Ill., recently formed by a merger of the Sefton Manufacturing Corporation, manufacturer of paper boxes and containers, and a number of other companies in a similar line of production, has concluded negotiations for the acquisition of the St. Louis Paper Can & Tube Company, 3275 Big Bend Road, Maplewood, St. Louis; the company will take over and operate the local plant and has organized a concern under the name of the Sefton National Fibre Can Company for this purpose. Plans are under way for enlargements and improvements, including the installation of additional machinery to develop a capacity of about 8,500,000 cans and boxes, and close to 1,000,000 tubes and kindred products, monthly. The new owner has arranged for a preferred stock issue of $200,000, a considerable portion of the proceeds to be used in connection with the new development.

Menasha, Wis.—The Gilbert Paper Company will make improvements in the power department at its mill, including the installation of new power plant piping and equipment. Charles A. Cahill & Son, 217 West Water street, Milwaukee, Wis., are engineers.

Cleveland, Ohio—The Iten Fibre Company, 2359 East 67th street, has completed plans and will soon break ground for the construction of a new one-story plant on Bower avenue, to be 50x132 feet, reported to cost close to $50,000, with equipment. A general building contract has been let to George W. Palton, 2448 Euclid avenue.

Syracuse, N. Y.—Hail & McChesney, 410 South Franklin street, manufacturer of paper products, including index books, etc., is completing plans and will soon ask bids for a proposed new plant at North Franklin and Danforth streets, to be one and two-story, brick and steel, reported to cost about $135,000, with equipment. Guy L. Noble, Breese Building, is architect and engineer.

San Francisco, Cal.—The Pacific Bag Company, 869 Folsom street, manufacturer of paper bags, etc., is understood to be considering the rebuilding of the portion of its plant, recently destroyed by fire, with loss reported in excess of $250,000, including building, equipment and stock.

Kalamazoo, Mich.—The Kalamazoo Loose Leaf Binder Company, manufacturer of general paper products, has approved plans for a merger with Remington-Rand, Inc., North Tonawanda, N. Y., manufacturer of index paper goods, devices, and other office equipment, and the proposed consolidation will be effected at an early date. As recently reported the present Kalamazoo works will be continued in service, and expansion plans are understood to be under advisement.

Philadelphia, Pa.—The Brown & Bailey Company, manufacturer of paper boxes and containers, is arranging for an early call for bids on general contract for a proposed new plant at 417-25 North 8th street, reported to cost more than $100,000, with equipment. The Ballinger Company, 105 South Twelfth street, is architect and engineer.

Philadelphia, Pa.—The Paper Manufacturers Company, Inc., Fifth and Willow streets, Philadelphia, has purchased property adjoining its plant at 501-7 Callowhill street, 85x87 feet, and is reported to be planning to use for expansion.

Camden, N. J.—The Samuel M. Langston Company, 6th and Jefferson streets, manufacturer of paper cutting and working machinery, has filed plans for the construction of a new two-story addition to its plant, for increased production. A general contract has been let to Fearn & Voegtlin, Camden.

Asheville, N. C.—The Southern Paper Products Company, recently organized with capital of $100,000, and headquarters at Asheville, is reported to be planning the early establishment of a new local plant for the manufacture of a line of paper goods. The new company is headed by J. Lawrence Widman, Norwood Park, Asheville, and James I. Mason, of the same city.

Chicago, Ill.—The Bates Valve Bag Company, manufacturer of paper bags and paper bag machinery, with headquarters at 8200 South Chicago avenue, is said to be arranging the sale of a

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bond issue, a portion of the proceeds to be used for general expansion. The company maintains plants at a number of places.

Fort William, Ont.—The American Consulate, Fort William, Marshall M. Vance, consul, reports that a Canadian paper company is perfecting plans for the early construction of a new news print mill on local site, to be equipped for an initial capacity of about 200 tons per day. It is said that the new unit is scheduled for completion within 15 to 18 months. Name of company and other information available at the office of the Bureau of Foreign and Domestic Commerce, Washington, D. C., reference, Canada No. 247,260.

New Companies, Etc.

Chicago, Ill.—The Consumers Paper and Supply Company, 117 West Harrison street, has been incorporated with capital of $60,000, to manufacture and deal in papers and paper products. The incorporators are J. Herbert Hedley, and Andrew De Tolve. The company is represented by Hedley & Byrne, 208 South La-Salle street, Chicago.

Elizabeth, N. J.—The Ross Wall Paper Chain Stores, Inc., has been incorporated with capital of 100 shares of stock, no par value, to deal in wall papers, including wholesale distribution. The incorporators are Samuel and James C. Ross, and Charles Eisenberg. The company is represented by Meyer M. Semel, 1174 Elizabeth avenue, Elizabeth.

New Type of Corrugated Container

An entirely new type of corrugated and solid fibre container has been patented in the United States and Canada with other

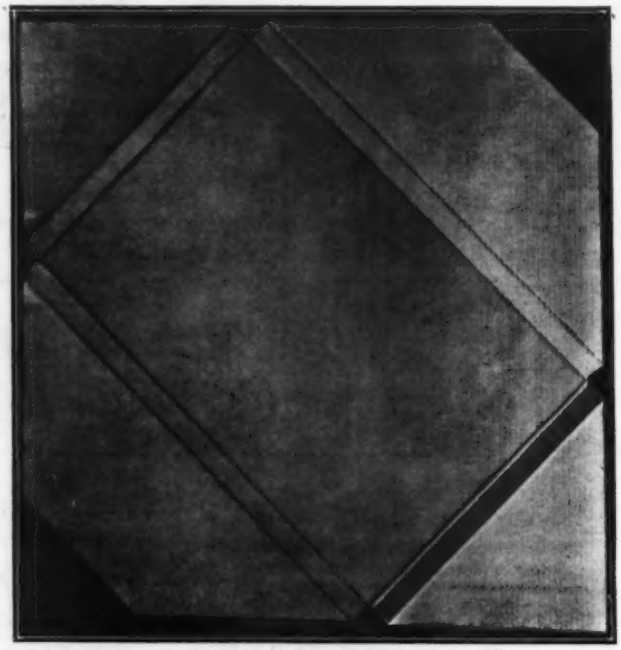
Patented in U. S. and Canada

NEW TYPE OF CONTAINER

patents pending, which utilizes the strength of the corrugation, or grain in solid fiber cases, in a unique way.

The distinct feature is that the corrugation or grain runs diagonally around the container. The containers can be made with double walled corners and stitches or tape joints eliminated.

When shipping paper, the stock is packed in the container lying perfectly open and flat, and when loaded, is folded in such a way that it can be sealed up perfectly with gummed tape, eliminating all rope or glue and making the container weather and pilfer proof.



Patented in U. S. and Canada

UTILIZES STRENGTH IN UNIQUE WAY

It was originally designed to carry tin plate and has been approved by engineers in the steel mills for this purpose.

A severe test was made of the container by throwing a regular size book packed therein from the tenth floor of the Standard Oil Building in Baltimore, Md., to a paved alley. The book and container were just slightly damaged from the impact, but the seal was not broken.

Chicago Paper Trade Happenings

[FROM OUR REGULAR CORRESPONDENT]

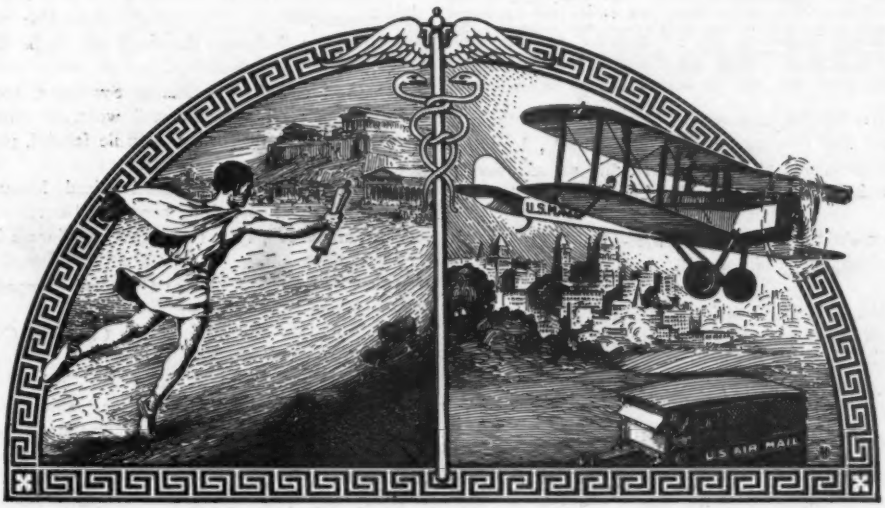
CHICAGO, Ill., July 15, 1927.—The Recreation and Outing Committees have seized the opportune time to function in their purpose of promoting the fraternal and recreational side of the industry and among these events is the announcement of the first monthly Golf Tournament at Wilmette Country Club, on Thursday, July 21. All members of the Chicago Division of the Salesmen Association of the Paper Industry are expected to do combat with Colonel Bogey, according to R. C. Johnson, chairman of the committee.

Mr. and Mrs. R. L. Robbins, of Minneapolis, stopped off two days in Chicago en-route to the East and Central West via auto. They are making this a combined business and pleasure trip. Mr. Robbins is with the Swarthwood Nelson Paper Company.

S. J. Hodgins, president of the Central Topeka Paper Company, Topeka, Kansas, sailed on July 9 on the *S.S. Adriatic* for a three months' trip abroad. Mrs. Hodgins accompanied him.

Rushing Work at Longview Plant

PORTLAND, Ore., July 15, 1927.—Another force of workmen has been put on the construction of the Longview Fibre plant, Longview, Wash., bringing the total to 325 men who are rushing this job to completion, to assure its being ready for operation by October 1.



Giving Wings to the Written Word

WHEN Greek met Greek in the ancient days and business negotiations were started, the final decision usually required person-to-person conference. When it happened that the outcome was delayed and the closing date of the option was near at hand, then indeed did the letter transport of those days reveal its deficiency

Many a time did the Attic business man write his belated acceptance upon a piece of treated sheepskin imported from Pergamum, roll this about a rounded stock, seal it with a wax impression from his official ring, and entrust it to a fleet-footed son of Hermes. Woe to the business deal if the messenger developed a weak heart or a stone-bruised heel!

The time that it required Athenian "special delivery" to convey a message from the center of culture to Megara, 30 miles away, now serves as quite enough for the winged descendants of Kitty Hawk to lift a half-ton of modern correspondence across the roofs and tree tops between New York and Chicago.

No longer does the mild-mannered sheep supply the basis of written records and the interchange of business agreements. Vegetable fibres—cellulose from shrubs and trees—white, plentiful, and inexpensive, now carry the business world's "yes" and "no."

Hammermill Paper Company

Erie, Pennsylvania

Trade Marks Department

CONDUCTED BY NATIONAL TRADE-MARK CO., WASHINGTON, D. C. The following are trade mark applications pertinent to the paper field pending in the United States Patent Office, which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade Mark Company, Barrister Bldg., Washington, D. C., trade-mark specialists. As an additional service feature to its readers, PAPER TRADE JOURNAL gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering.

BOO KEE PEER—No. 211,379. George M. Schaff, Cleveland, Ohio. For blank books and blank forms including check books, bank accounts, journals, ledgers, and all office record and account books.

HOLDERPACK—No. 215,413. Arthur Waldo Lovejoy, Lowell, Mass For toilet paper.

THE BLUE PRINCE—With picture of a prince—No. 247,157 Acme Blue Print Paper Company, Chicago, Ill. For tracing paper and tracing cloth.

HECTO CLASP.—No. 241,190. Tension Envelope Company, Inc., Brooklyn, N. Y. For mailing envelopes of the clasp type.

N.S.—With fanciful scroll—No. 246,494. Non-Smut Carbon Manufacturing Company, Inc., Rochester, N. Y. For carbon paper and typewriter ribbons.

JEWEL.—No. 247,268. Julia V. Finley, New York City. For score pads.

DURADEX.—No. 247,364. The Duradex Company, New York City. For card indexes, guide cards for card indexes, cards, and indexes.

BI-FOCAL.—No. 247,423. Filing Equipment Bureau Inc., Boston, Mass. For index cards, guides, folders, and sheets.

ORIGINAL JAPANESE TISSUE.—This mark is accompanied with a fanciful Japanese picture.—No. 247,718. Universal Crepe and Tissue Mills, Inc., New York City. For toilet paper.

TIP TOP.—No. 247,724. Wortendyke Mfg. Company, Richmond, Va. For gummed paper tape and gummed cloth tape.

NATIONAL.—No. 247,809. Nashua Package Sealing Company, Nashua, N. H. For devices for moistening gummed paper, tape, etc.

REPRESENTATION OF A SIX POINTED STAR, No. 215,209. Japan Paper Company, New York City. For Italian handmade and handlaid writing paper.

CONTINENTAL, No. 228,744. Continental Bank-Supply Company, Mexico, Mo. For pass books, check books, coin envelopes, blank forms of all kinds used in banking business.

TEN THOUSAND LAKES.—No. 231,022. Swarthwood-Nelson Paper Company, Minneapolis, Minn. For writing paper.

NATIONAL PACKAGE SEALER.—No. 245,366. Nashua Package Sealing Company, Inc., Nashua, N. H. For devices for moistening adhesive or gummed tape, etc.

HARLEQUIN—No. 230,081. The Buzza Company, Minneapolis, Minn. For tally cards and score pads with blanks to fill in.

SECURITY—No. 247,927. Central Paper Company, Menasha, Wis. For gummed and ungummed paper sealing, veneer, and stay tapes.

ROSILITE—No. 248,256. River Raisin Paper Company, Monroe, Mich. For fibrous paper used for shipping cases.

IT'S ON THE SQUARE—No. 249,016. Daniel J. Montambo, Iron River, Mich. For business record books.

YUKON AURORA—No. 248,152. Butler Paper Corporation, Chicago. For book paper, cover paper, bristol cardboard, blank post cards, bonds, writings, ledgers, and paper intended for making envelopes.

STRATHMORE—No. 248,452. Strathmore Paper Company, Mittineague, Mass. For all kinds of writing and printing paper.

SPIRIT OF ST. LOUIS—No. 249,966. Graham Paper Company, St. Louis, Mo. For printing and writing paper.

NIRVANA, No. 241,632.—Nashua Gummed and Coated Paper Company, Nashua, N. H. For ornamental paper used for box coverings, envelope linings, cover linings for goft books, etc.

PRUDENCE No. 245,686.—Arkwright Finishing Company, Providence, R. I. For tracing cloth and pencil cloth.

CAPITOL SERIES No. 246,087.—The Dudley Paper Company, Lansing, Mich. For school blank books, consisting of writing tablets, penmanship tablets, examination tablets, etc.

LOOMFIBER No. 246,169.—W. H. Loomis Talc Corporation, Gouverneur, N. Y. For gritless short-fiber paper filler especially prepared for the paper industry and to be used with other raw materials in the manufacture of paper.

RAMAR No. 246,932.— Ramar Syndicate, Inc., Norfolk, Va. For paper pulp, cooked or digested wood or other vegetable growth suitable for making cordage, textile fabrics, pulp, or paper; plastic wood and plastic or sheeted pulp.

WARDS No. 245,376.—Samuel Ward Manufacturing Company. Boston, Mass. For writing papers and envelopes, typewriter paper, tablets, student's paper, record books, address books, diaries, memory books, etc.

JIFFY, No. 244,872. Lewy Chemical Company, New York City. For garment bags of paper.

PROTECTO, No. 244, 873. Lewy Chemical Company, New York City. For garment bags of paper.

PRO-LONGO TRIP, No. 247,127. The Cosby-Wirth Manifold Book Company, Minneapolis, Minn. For triplicating sales books.

REPRESENTATION OF A FIVE POINTED BLUE STAR, No. 247,623. McLaurin-Jones Company, Brookfield, Mass. For gummed paper or cloth tape.

BLUE, with representation of a star, No. 247,624. McLaurin-Jones Company, Brookfield, Mass. For gummed paper and gummed cloth.

ARDAK, No. 247,986. Art Book Binding Company, Inc., New York City. For albums.

JANDHO'S POST-A-GRAPH, No. 248,103. John A. Holden, Baltimore, Md. For mailing sheet.

SILKTEX, No. 248,602. The Victoria Paper Mills Company, Fulton, N. Y. For toilet paper.

DEPENDO, No. 248,633. Graham Paper Company, St. Louis, Mo. For bristol board commonly employed as an index bristol.

GREYHOUND.—No. 246,268. Continental Paper and Bag Mills Corporation, New York City. For wrapping paper.

KROYDON.—No. 246,552. Holyoke Card and Paper Company, Springfield, Mass. For cover paper.

VARISED STERLING HARD FIBRE.—No. 246,720. The Sterling Fiberboard Company, New York City. For fiber board.

CHA IN DEX.—No. 247,363. The Duradex Company, New York City. For card indexes, guide card for card indexes, cards, and indexes.

REPRESENTATION OF TWO ELEPHANTS TUGGING IN OPPOSITE DIRECTIONS.— No. 247,910. Reversible Collar Co., Boston, Mass. For paper backed with an adhesive-applied layer of cloth.

Retires After Fifty-Six Years of Service

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., July 19, 1927.—One of the oldest paper mill employees in time of service in this section retired last week when George Girard of 329 Beech street tendered his resignation as employee at the No. 2 Mill of the Whiting Paper Company. Mr. Girard was employed the day that the mill opened, May 2, 1871, and was hired by the late William Whiting. He has, therefore, worked for three generations of the Whiting family and under seven different overseers. He fractured a rib last February and rheumatism, which it is alleged developed from that, forced his retirement from active work.

Timber Limits for Fraser Co.

The Fraser Company, Ltd., of New Brunswick, has acquired the interests of the Richards Manufacturing Company, consisting of some 496 square miles of Crown lands in New Brunswick, on lease.

BLEACHED and UNBLEACHED
SULPHITES
KRAFT PULPS
GROUND WOOD
NORRONA
PULP STONES

PERKINS-GOODWIN CO.
NEW YORK
ESTABLISHED 1846
551 FIFTH AVE.

PAPER
PRINTING PAPER
of
EVERY DESCRIPTION

New York Trade Jottings

The new offices of the Groveton Paper Company at 527 Fifth Avenue, New York, are in charge of Arthur N. Waring, recently appointed manager of sales.

* * *

The Certain-teed Products Corporation stockholders have approved a proposed increase of the authorized number of common shares from 500,000 to 1,000,000.

* * *

The Buildings Waste Paper Corporation of New York City has been incorporated under the laws of the State of New York with a capital of 100 shares of common stock.

* * *

Adolphe Hurst & Co., Inc., paper stock dealers, have removed from 30 Church street to more convenient quarters in the Graybar Building, 420 Lexington Avenue, New York.

* * *

Mr. and Mrs. D. Palmieri announce the arrival of a ten pound boy, Paul, on Saturday, July 16. Mr. Palmieri is a well known member of the staff of M. M. Elish & Co., general paper merchants, of 29 Beekman street, New York, and is receiving the congratulations of his friends in the paper industry.

* * *

Net income of the Texas Gulf Sulphur Company, New York, in June, after depreciation and Federal taxes but before depletion, is understood to have been approximately $1,100,000, bringing the total net for the second quarter to $3,200,000, or over $1.25 a share on the 2,540,000 shares of no par common stock. This compares with net income of $2,854,631 after depreciation and Federal taxes but before depletion, equal to $1.12 a share on the common, in the quarter ended March 31. The second quarter was the largest quarter in the company's history.

* * *

The Mathieson Alkali Works, Inc., New York, reports a net income of $452,429 for the second quarter of 1927, after depreciation, depletion, Federal taxes and other charges, equivalent after preferred dividend requirements to $2.78 a share earned on 147,207 shares of no par common stock. This compares with $446,268, or $2.73 a share, earned in the previous quarter, and with $391,874, or $2.36 a share, earned in the second quarter of 1926. Net income for the first half of 1927 was $898,698 after the same charges, equal to $5.51 a share earned on the common stock, against $776,156, or $4.67 a share earned in the first half of 1926.

Caroa as Paper Making Material

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., July 20, 1927.—Tests of caroa fiber as a paper-making material have recently been made on a semi-commercial scale under practical mill conditions in the experimental paper mill of the Bureau of Standards. These tests are described in a bulletin which has just been issued. The results of these tests confirm data of the earlier laboratory tests which indicated that caroa fiber would be a very satisfactory paper-making material, particularly for use with, or as a substitute for, rag and rope stock, of which there is a scarcity in the paper industry.

Caroa is a plant of the pineapple family and is indigenous to eastern Brazil. The leaf of the plant is about 4 feet long and from 1½ to 2 inches wide, being slightly larger than that of the pineapple, which in certain parts of the world, particularly the Philippine Islands, is extensively used for the manufacture of textiles.

By beating the leaf between stones the natives separate the fiber which is used locally for coarse hand-made twines, nets, and rope. Caroa is not employed commercially, however, but production and cost estimates indicate that its use for paper-making would be practical.

To Test New Zealand Grown Woods

[FROM OUR REGULAR CORRESPONDENT]

MADISON, Wis., July 20, 1927.—Alex R. Entrican, engineer in forest products of the New Zealand State Forest Service, has arrived at the U. S. Forest Products Laboratory here with two carloads of New Zealand grown woods, both native and introduced, which the laboratory will test for paper-making qualities. All of the well-known pulping processes will be used in the tests, as well as the semi-chemical process which has recently been developed at the laboratory. Three hundred logs and a considerable quantity of slab wood make up the shipment. There are six species in all. Monterey pine, indigenous to the Monterey Peninsula in California, rimu (*dacrydium cupressinum*), the dominant New Zealand softwood, and tawa (*beilschmieda tawa*), a New Zealand hardwood, are the species about which information is most desired. The three other species, European larch, Austrian pine, and Corsican pine, will also be tested.

Mr. Entrican states that the pulping tests are being carried out because New Zealand foresters are obliged to find uses for the thinnings from extensive forest plantations which are just reaching thinning age in his country.

The existence of large planted forests in New Zealand, which has extensive natural forests, is due to problems of forestry peculiar to the country. The native woods are of such slow growth that to meet immediate futre timber requirements the New Zealand Forest Service has adopted a policy of planting rapid-growing species from abroad in preference to attempting to alter the existing stands by long-time management plans. Although the natural forest will in time be thus developed as the need arises, three hundred thousand acres of public forests, together with about 200,000 acres of private plantings, is the area, properly forested, is expected to produce an adequate timber supply for the islands for some time to come. Of the public area one-third has already been planted, principally with Monterey pine, western yellow pine, Corsican pine, Austrian pine, European larch, northern white pine, and various Australian eucalypts. The program contemplated the planting of the remainder by 1935. In addition to Monterey pine there are a number of other American woods which are represented in the New Zealand planting, including western white pine, Douglas fir, western yellow pine, Port Orford cedar, and lodgepole. Owing to the fact that the pulping qualities of these woods have already been determined by the Forest Products Laboratory they are not included in the present tests.

According to Mr. Entrican the New Zealand plantations have well justified the faith put in the faster-growing species, the mean annual increment per acre running from 250 to 900 cubic feet per acre per year. This growth rate is several times that common to forests in the cooler parts of the North Temperate Zone. Based on even the lower limit of growth quoted above Mr. Entrican estimates that it would be possible to operate permanently a pulp mill of 200 tons daily capacity on about 50,000 acres of forest.

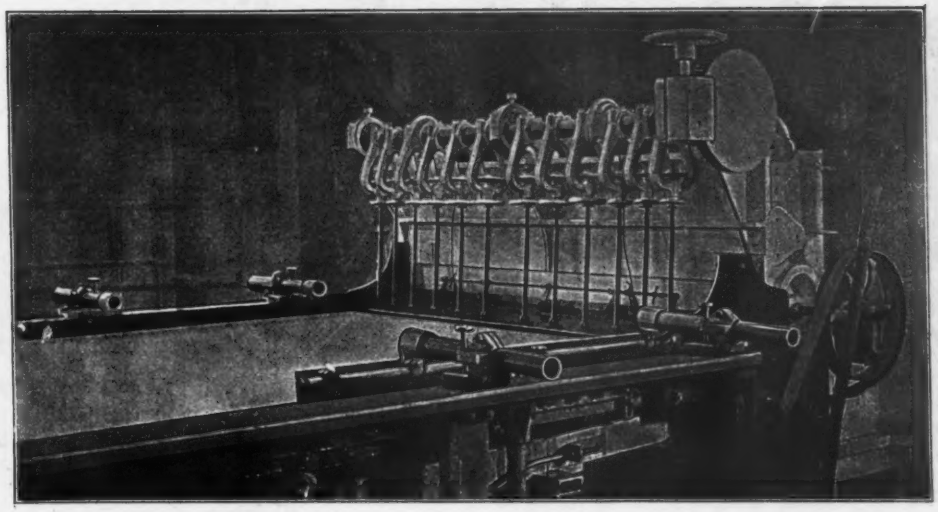
Market for Ground Wood Weak at Oslo

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., July 20, 1927.—The market for groundwood is weak, according to a report from the American Consulate at Oslo, which further states that deliveries from Baltic shippers on old contracts are now going forward, but very few new sales are being made. More interest is shown, however, in the 1926 production, and considerably higher prices are being obtained on these sales.

Install Murphy Junk Removers

The Container Corporation of America has just installed two Murphy Junk Removers at their mill at Manayunk, Pa. The Murphy Junk Remover is made by the Griley-Unkle Engineering Company, of Fort Wayne, Ind., which has taken a series of moving pictures of installations already made of this equipment, which show the device in practical operation.



Better Paper at Less Expense

Not only can the quality of paper be improved but its production cost can be lowered at the same time. Over one hundred mills in the United States have found this statement to be true. The paper that they are now making is better in formation and more even in caliper. It is a firmer sheet in every way and made at a lower cost. Production has been increased, wires last from 15% to 20% longer, fewer breaks result in the sheet and the bother of aprons and the long slices has been eliminated. This is the result of the Voith Stock Inlet.

Easy to Install—Actual Cost Low

The simplicity of the Voith Inlet is shown in the above picture. Easy to install and easy to operate, it reduces labor and saves time. The actual cost is low in comparison to results secured. A New York mill figured that the Inlet paid for itself in thirty days. Considered from all angles it is worth careful consideration by every manufacturer. Give us an opportunity to prove these statements. A letter will bring you an illustrated booklet and other information that will not fail to interest you.

VALLEY IRON WORKS CO.

APPLETON, WISCONSIN

New York Office: 350 Madison Avenue
Western Manufacturing and Sales Division
SMITH & VALLEY IRON WORKS CO.
Portland, Oregon

Power Plant Section

Reducing Power Costs Through Unit Treatment

Conducted by REGINALD TRAUTSCHOLD, Consulting Engineer

Unaflow Engines

When High Prime Mover Efficiency and Low Steam Costs Are Compatible

The demand for low pressure steam in process work in the paper mill, exhaust is eminently suitable and economical, is invariably a dominating consideration in the wise selection of the steam prime mover. To quote an official of a prominent firm of engine builders who was approached for pertinent statistics regarding the value of the admittedly efficient type of unaflow engine in paper mill operation—"The choice (unaflow or counterflow engines) in most such cases will be determined by the use which can be made of the exhaust steam and so the initial steam consumption of the engine may often be of little or no importance." The same official, although associated with one of the leading manufacturers of unaflow engines, also expressed the opinion that many purchasers of this kind of apparatus have, in the past ten years, been imposed upon and misled in respect to the real value of the engine, paying a substantial premium in first cost when a less expensive type would have served equally well from every possible standpoint.

Another leader in unaflow engine manufacture claims, not only that the unaflow engine is the most economical steam engine built, but that it is adaptable for the most economical operation in the paper mill industry. This particular manufacturer has such confidence in his product, furthermore, that he has devised a guaranteed saving contract sales arrangement whereby he will install a complete unit on a small cost payment and accept the balance in deferred payments of monthly installments of the value of the fuel saving effected as determined by actual tests. A few years ago, this manufacturer had entered into guaranteed-savings contracts to the sum of $635,159. The initial cash payments on these contracts amounted to $197,825, leaving a balance to be paid from savings realized of $437,334. The annual savings effected by the purchasers of these engines totaled to $386,931, nearly double the initial cash payments. It is estimated that these purchasers will save something like $4,000,000 in ten years through the operating economy of the engines.

While all these particular engines were not installed in paper mill power plants, some of them were and in one case where the mill had previously purchased electric power and employed live steam for processing work an annual saving of $28,000 was realized. This represents 94 per cent of the contract price of the installation and three and three-quarters times the initial cash payment of $7,500 made at the time of signing the contract. There are numerous other authenticated records of similar savings effected in paper mills through the use of unaflow engines, some of which will be mentioned subsequently, but the fact remains that the ideal conditions exist when high prime mover efficiency and low steam costs are compatible.

Shrinkage of Cost Burden

An economic balance is entailed and, as is almost invariably the case under such circumstances, first thought, too often, last thought as well, is given to the question of investment, the cost burden which exacts its toll day and night, good times and bad. A unaflow engine costs more than even a very good counterflow engine of the same capacity, a quarter or a third more. This may represent a considerable sum, but it is comparatively insignificant when the total cost of the power plant is considered. For instance, in a plant where a unaflow would cost say $2,000 more than a high-speed four-valve engine of the same size, almost a third more, the power plant cost burden will not be increased more than 5 per cent by the installation of the more costly prime mover, if the necessary common investment in generators, boilers, piping, switchboards, foundations and boiler settings, building and stack, etc are taken into account.

With prime movers of such size operating under the conditions usually encountered in the paper mill power plant, the unaflow engine might be expected to effect a saving in coal expense of $3,900 a year, in round numbers. This is very close to 200 per cent on the increased cost of the plant attributable to the installation of the high priced unaflow engine.

The extra investment which might at first thought appear somewhat excessive would in effect be wiped out during the first half of each year and the overall cost of plant operation reduced, as well, by close to 5 per cent per annum in the second half. The economic aspect at last thought, thus, is considerably different from that at first thought. An annual return of $1.95 for the investment of each $1.00 is a rate of return which few power plants of any kind would not find attractive.

Stem Balance Limitations

But, that unavoidable bugbear, economic steam balance, may discount in large measure, if not entirely, the economies to be realized through efficient engine operation of this order. While unaflow engines are now obtainable in sizes up to 2,500 horsepower which will automatically change from non-condensing operation, or vice

Power Plant	Prime Mover	Investment Entailed	Major Improvement Realized	Estimated Annual Saving	Yearly Return on Investment
Taylor-Atkins Paper Co., Burnside, Conn.	Skinner Unaflow Engine	$10,795.00	Increased economy in use of fuel	$5,400.00	50 per cent
National Paper Products Co., Stockton, Cal.	Nordburg Unaflow Engine and Condensing Steam Turbine		Substantial saving in process steam expense	Equivalent to the former cost of all purchased power	
Fairfield Paper Co., Baltimore, Ohio.	Skinner Unaflow Engine	30,000.00	Higher engine efficiency	$28,200.00	94 per cent
Chesapeake Paperboard Co., Baltimore, Md.	Harrisburg Unaflow Engine	$100.00 per horsepower	Fuel conservation and reduction in process steam expense		

How Hercules Wood Rosin Is Produced

ROSIN and turpentine, generally referred to as Naval Stores, are produced from the oleoresin of the southern pine, chiefly from the longleaf species. When made from gum which exudes from the living pine tree they are referred to as gum products. When distilled or extracted from pine stump wood and pine waste wood they are referred to either as steam and solvent wood products or as destructively distilled wood products, according to the process used. Wood rosin is obtained only by the steam and solvent process.

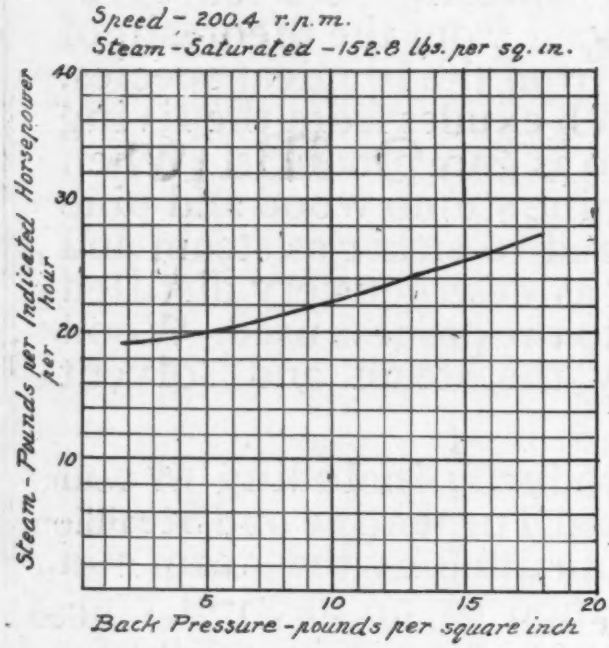
Hercules Naval Stores products, including Wood Rosin, Steam-Distilled Wood Turpentine and Steam-Distilled Pine Oil, are all obtained by the steam and solvent process. This method of production consists of first cutting the resinous pine wood into fine chips; second, distilling from the chips with steam the turpentine and part of the pine oil; third, extracting from the chips the rosin and remaining pine oil with a hot volatile solvent, usually gasoline; fourth, recovering the rosin and pine oil from the solution containing solvent; fifth, refining the turpentine and pine oil, then finishing and barrelling the rosin.

The production of wood rosin by the steam and solvent process has increased largely since 1910. At present more than half of all wood rosin produced is supplied by the Hercules Powder Company.

Hercules Wood Rosin is adapted to use in kraft or dark colored papers in which pale rosins are not required. Hercules Wood Rosin is so clean and free from dirt, and so uniform in quality that it is meeting with increased favor by paper manufacturers.

HERCULES POWDER COMPANY
(INCORPORATED)
943 Market Street, Wilmington, Delaware

versa, with the change in exhaust conditions; which can be operated economically with back pressures of 25 pounds or more, or with vacua as low as 28 inches; which show relatively little variations in steam consumption rate between quarter load and 25 per cent overload; which employ saturated or superheated steam up to 200 pounds or more and 250 degrees superheat; and which incorporate many refinements, such as variable speed devices by which the speed of the Fourdrinier or other machine may be varied from the floor by an electric contrivance acting on the shaft governor, there are still conditions under which Corliss or other counterflow engines are given the preference. A case in point is the recent installation of two 150 horsepower Corliss engines at the Urbana (Ohio) mill of the Howard Paper Company.



MARKED CONSTANCY OF STEAM CONSTRUCTION

Curve showing Unaflow Engine Exhausting at Various Back Pressures. An increase of 5 pounds in back pressure entails an increased steam consumption rate of only about 10 per cent.

Before this type of counterflow engine was selected, the possibilities of the unaflow engine were thoroughly investigated. The deciding factor was the question of exhaust steam supply for process requirements. It was feared that the unaflow engines would create a process steam deficiency, which would entail the use of live steam makeup. The steam balance in the case of the Corliss engines, on the other hand, was such as exactly to care for the process steam demand. Whether or not the use of whatever proportion of live steam might be necessary with the more efficient unaflow engine would not have paid in the long run is not a matter for consideration here.

A somewhat different decision was arrived at when remodelling the Stockton (California) plant of the National Paper Products Company a few years ago. The original installation here consisted of counterflow engines, the exhaust from which proved insufficient for drying the paper and other process requirements. This necessitated the use of considerable live steam for such operations. Furthermore, all the electric power employed was purchased from outside.

This rather unsatisfactory situation was overcome by the installation of unaflow engines with a supplementing turbo-generator set. The fluctuations in electric power demand, an hourly requirement for some 2,400 kilowatts being developed at times, are greater than those for exhaust steam, so the condensing turbine connected to a 1,250 kilovolt-ampere generator is employed to care for the peaks. The engine and turbine are run in parallel, with the unaflow engine generating only such power as is required to supply exhaust steam demands, the balance of essential power being automatically supplied by the turbine.

The exhaust steam supply, which is equivalent to some 1,750 kilowatt hours in electric units, a goodly amount when compared to the power requirements, entails a water rate of only 21.9 pounds of steam per kilowatt-hour with the engine operating against 16 pounds back pressure. The engine, running at 120 revolutions per minute, operates at 300 pounds gauge pressure and total steam heat of 622 degrees Fahrenheit.

Regulators, called pontoons, operate from the back pressure on the unaflow and on a variation of ½ pound either way make electric contacts which operate a small direct current motor on each of the engine governors, shortening or lengthening the engine cut-off. The turbine governor is arranged so that it follows the load changes and holds a given part of the load steady while the total plant load is fluctuating.

The economies realized through this change in the Stockton mill are really quite striking. Though the cost of generating the electric power is not materially less than the price of the current when bought from the service company, there have been very substantial

LOG OF OFFICIAL TEST OF THE UNAFLOW ENGINE WHICH IS EARNING $400.00 A MONTH AT TAYLOR-ATKINS PAPER COMPANY MILL, BURNSIDE, CONN.

Time P. M.	Steam Jacket Trap Bbl.	Bbl. No. 1	Bbl. No. 2	Header Gage	Throttle Pressure Indicator	Throttle Temp. Degrees F.	Cal. Temp.	Back Pressure Gage	Back Pressure Indicator	R.P.M.	M. E. P.	I. H.P.	Volts	Amperes
5:00	208	305		125	117	352	283	9.0	7.5	199	22.6	160	250	350
5:10	221	365	332	122	112	351	284	10.0	9.0	199	22.8	162	250	350
5:20	251	373	319	121	114	351	284	10.0	7.5	199	23.6	167	250	360
5:30	256	329	340	125	116	353	284	10.0	8.5	199	24.2	172	250	350
5:40	270	319	323	123	113	352	268	10.0	9.0	199	23.5	167	250	360
5:50	291	180	271	128	121	355	265	10.0	8.0	199	22.4	159	260	360
6:00	291	300	348	127	116	354	268	9.0	9.0	199	22.7	161	250	340
6:10	316	366	324	121	112	351	268	11.0	8.5	199	23.8	169	250	370
6:20	316	359	349	120	113	350	268	10.0	8.5	199	24.8	176	250	375
6:30	322		343	122	113	351	264	11.0	8.0	199	25.4	180	250	380
Net	114	3126	2949	123	115	352	275	10.0	8.4	199	23.5	167	250	358

Results. Condenser water per hr..... 6075/1.5 = 4050
Jacket trap discharge per hr..... 114/1.5 = 76

Total water to engine per hr..... = 4116
Per cent moisture—1.5% × 4116..... = 62

Net dry steam to engine per hr..... = 4054
Average i.hp. = 167.3 × 1.027..... = 171.8
Average rate per i.hp. hr.—4054/167.3..... = 23.65

Calibration throttle ind. shows factor..... 1.035
Calibration i.hp. ind. shows factor..... 1.027
Calibration back press ind..... plus .50 lb.
Throttle press. = 116 × 1.035..... = 119 lb.
Back press. = 8.4 + .5..... = 8.9 lb.
Correction for steam press. 119 to 115 lb..... = 0.3 lb.
Correction for back press. 8.9 to 10.0 lb..... = 0.4 lb.
Net rate per i.hp. hr., 115 lb. throttle to 10 lb. B.P..... = 24.35 lb.

Bought 500,000 feet of lumber . . . . 1000 miles away

A MEMPHIS LUMBER firm's representative called at the office of a buyer a thousand miles away. He found him in the market for a half-million feet of lumber. He wired this news to his company. They called him at once by long distance telephone, catching him before he left the prospective buyer's office. . . When the receivers were hung up, the deal had been closed.

MANY OTHER LUMBER COMPANIES have like experiences. For example Atlanta: "... Looking over a list of our stock yesterday, saw an item we thought one of our customers might want. Decided to call by Long Distance. Expense, possibly $3.50. Developed an order for 5 cars of lumber."

From Nashville: "... Last week we secured a 5-car order by telephone from one of our Louisville customers ... this week 3 cars to a Knoxville connection." Jackson, Mississippi: "... A few weeks ago we sold a quarter-million feet of lumber over the telephone to Toronto, Canada." Mobile: "... We do over 80% of our lumber buying over the long distance phone." Memphis: "... For quick action, for learning the last-minute status on any out-of-town situation, and in effecting satisfactory adjustments, nothing we know of will take the place of long distance service."

For good results, quick, try long distance calls. They'll usually cost less than you think. . . . . *Number, please?*

BELL LONG DISTANCE SERVICE

savings in the cost of the exhaust steam employed for drying and heating. In fact, the fuel now utilized per ton of finished paper is very nearly the same as when all power was purchased from without. In other words, the power cost burden may be said to have been virtually eliminated. At least, the effect is the same as if it had been and no economies had been effected in the cost of steam for process requirements.

Adaptability of Unaflow Engines

That the unaflow engine will operate economically under varying degrees of back pressure, so demonstrating its adaptability to conditions such as pertain in the paper mill industry where steam at higher temperatures than 212 degrees is frequently required, is perhaps best evidenced by a brief reference to the typical conditions in paper mills which it has met successfully. For example, at the Patterson Parchment Paper Company, Passaic, N. J., a unaflow

UNAFLOW UNIT AT FAIRFIELD PAPER CO. MILL

This unit operating at back pressures up to 25 pounds per square inch, paid the entire cost of its installation in less than 55 weeks.

engine, connected to a 350 kilowatt direct-current generator, operates on steam at 125 pounds at the throttle and exhausts into vacuum atmosphere or against low back pressure conditions.

A very similar unit is installed in the plant of George LaMonte & Sons, Nutley, N. J., which runs on steam at 135 pounds at the throttle and exhausts against back pressures varying from 15 to 25 pounds per square inch. This particular unit has proved very successful and highly economical in the use of steam.

At the plant of the Dill & Collins Company, Philadelphia, Pa., a unaflow engine, directly connected to a 400 kilowatt direct connected generator operates at 130 pound steam pressure and exhausts into 2 pounds back pressure, 4 pounds back pressure or into 26-inch vacuum, depending on the season of the year. Such practice makes it possible to operate the plant at all times under the most favorable and economical conditions.

A unaflow engine of the dual clearance type at the Chesapeake Paperboard Company, Baltimore, Md., direct connected to a 400 kilowatt generator, operates on from 175 to 180 pounds steam pressure and against back pressure sufficient to supply the exhaust steam necessary for roll heating service. With engines of this type steam at exhaust pressures from atmospheric to 25 or 30 pounds per square inch can be supplied and, if required, steam at higher pressure can be withdrawn to supplement the exhausted steam.

Another example of the adaptability of unaflow engines to meet varying back pressure conditions is at the Fairfield Paper Company, Baltimore, Ohio, the mill previously referred to where an annual saving of $28,000 was realized. Here, the unaflow engine operates on 160 pound steam pressure and exhausts against from 0 to 25 pound per square inch resistance. This engine paid for itself in savings effected in something like a year and three weeks. Since having liquidated its cost, it has earned virtually its entire initial cost each year.

The installation at the Taylor-Atkins Paper Company, Burnside, Conn., furnishes still another example of the ability of unaflow engines to function economically against considerable back pressure and to amortize the investment their purchase entails in short order. The engine operates on the relatively low boiler pressure of 115 pounds per square inch and exhausts against back pressure as high as 10 pounds, consuming in so doing only 24.35 pounds of steam per indicated horsepower. Compared to the experience with the counterflow engines previously employed, the unaflow installation saves about $400 each month. The entire contract price of the engine installation was wiped out by such savings in less than twenty-seven months.

These quite typical examples of unaflow engine efficiency in operation, of their flexibility to meet exacting conditions and of economies effected through their use may seem to confirm the high opinion held by certain manufacturers of this type of prime mover, regarding its adaptability for the most economical operation in the paper mill industry. They certainly exemplify conditions where high prime mover efficiency and low costs may be said to be truly compatible. The very sound advice of the other manufacturer of such engines should be kept in mind, however, that the advisability of their installation will depend upon the use which can be made of exhaust steam in the mill for processing operations.

It may even be well to repeat here the admonition that no type of power plant can be devised which will insure minimum power and other production costs under all conditions. Nevertheless, the paper mill which finds itself burdened with apparently unnecessarily high power costs or which has to employ live steam for any considerable proportion of its heat processing operations can well afford to investigate the unaflow engine—alone, or in combination with a steam turbine or other prime mover—for possibilities of improving its status and effecting worthwhile savings.

The chief object in presenting this discussion has been to lead the progressive mill superintendent to give careful thought to the possibility of an unaflow engine installation. Such installation may not prove warranted in every case, it is quite true, but the standard established by such engines will almost invariably be of such a high order that assurance can be felt that whatever installation gives dependable promise of bettering such standard will indeed be an extremely economical one. The unaflow standard as a bogey should help to stabilize and minimize production costs in the paper mill.

Scovill Paper Co. Sold

[FROM OUR REGULAR CORRESPONDENT]

OGDEN, Utah, July 15, 1927.—Sales of the Scovill Paper Company of Ogden to the Carpenter Paper Company interests of Salt Lake was announced by A. L. Scovill, president of the local company. The Carpenter Paper Company took charge of the local house immediately.

In announcing the sale of the paper company, Mr. Scoville said this action was taken by the Scoville interests in order to permit them to devote more attention to their oil operations in Wyoming.

Consideration involved in the transfer of the business will be approximately $75,000, Mr. Scoville said. The firm, under new control, will be able to go farther into specialization, Mr. Scoville said, due to the fact that Scoville interests have been precluded somewhat from entering into all fields of the business, as they also were in the printing business.

With the change of control of the company, the Ogden Paper Company will be formed. Incorporators will be owners of the Carpenter Paper Company. L. W. Sherner, who has been manager of the Scoville Paper Company, will continue as manager of the new corporation, acting under the direction of Robert Spitko of the Carpenter Paper Company.

PAPER SALESMAN

THIS "Ad" is particularly addressed to the man who ordinarily does not look at the Help Wanted Section. Having just assumed the exclusive sale in the East of two Mills, one manufacturing a complete line of Printing Papers and the other, high grade Wrappings, we are seeking two men who have selling power and know the trade in the aforementioned lines but are handicapped at the present time for one reason or other to get the most out of their time and efforts. These openings present unusual opportunity to make permanent connection and share in profits.
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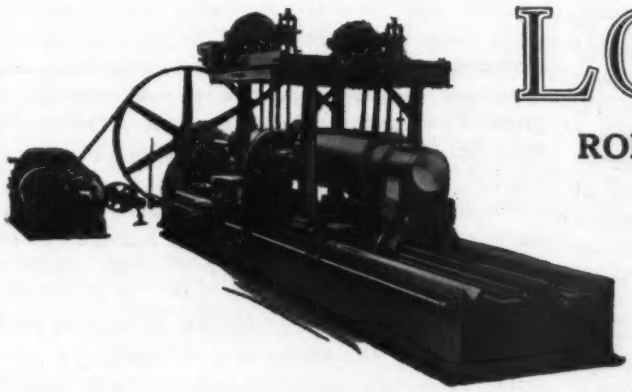

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Vol. LXXXV New York, July 21, 1927 No. 3

TECHNICAL EDUCATION FOR MILL WORKERS

Following out the directions of a resolution adopted by the membership of the International Brotherhood of Papermakers, Mr. William R. Smith, president of the organization, has appointed a committee which will investigate the subject of technical education for paper mill workers included in the membership of the Brotherhood. Mr. Matthew J. Burns, secretary of the Brotherhood, with whom the idea originated and who was instrumental in the adoption of the resolution at the Papermakers' convention in Albany, N. Y., last March, is a member of the committee and will act as chairman. Others appointed to the committee are Mr. Frank P. Barry, first vice president, Mr. Chester Jordan, of Kenora, Ont., Mr. Thomas F. McGrath, of Escanada, Mich., and Mr. Robert T. Burkhart, of Iroquois Falls, Ont.

The committee will visit all colleges and trade schools in the United States and Canada where technical subjects relating to papermaking are included in the courses. An exhaustive study of the subject will be made and a definite plan worked out which later will be presented for approval of the organization. The committee will come together for the first meeting in Montreal this week and will immediately start on its tour of investigation.

The International Brotherhood of Papermakers will meet all expenses of the committee which will take probably two or three weeks for its investigation. The results of the trip will be included in a report to be presented to the executive board of the Brotherhood.

President Smith expressed the hope that some plan can be worked out by this committee that will be beneficial both to the men in the union and to the paper making industry.

The educational program is one of the greatest innovations ever attempted for members of a papermakers' union and if it is found to be workable it will enable many men employed in the mills to become better versed through education with the technical side of papermaking and will fit them for advancement to higher positions.

QUICKENING IN MID-WEST BUSINESS

Some quickening in business activity in general in the Mid-West territory in the coming three months, as contrasted with the corresponding quarter last year, was indicated by the reports of the various commodity committees of the Mid-West Shippers Advisory Board at the thirteenth regular meeting of that organization which was held at Green Bay, Wis., last week. The Board, which includes in its territory the states of Illinois, Iowa, and Wisconsin, and parts of Indiana and Michigan, is composed of 44 commodity committees representing all of the principal lines of agriculture and industry in this section. At the meeting each committee reported upon the probable business outlook for its particular line in the coming three months, these reports being made in order to furnish the Mid-West railroads with advance information as to the traffic which they will be called upon to handle, in order that the roads may make the necessary preparations to handle this traffic without delay.

The reports presented by the various commodity committees fell into three general classifications—those in which increased business, as compared with the corresponding months last year, was anticipated in the next quarter; those in which the level of business activity will show little or no change, and those in which some recession of activity is anticipated. Combining all of these reports, however, and viewing the situation as a whole, it appears that there will be some slight increase in Mid-West traffic movement during July, August and September this year when compared with the same months of 1926.

A five per cent decrease is anticipated in the shipments of products manufactured from lumber, with the same percentage of decrease expected in the movement of machinery. The present condition of the paper board and paper board box industry is reported as 15 per cent below normal for this time of year and will remain correspondingly below normal during July, August and September. Conditions in the waste material trade are likewise reported as quiet at present with a slight decline anticipated for the coming three months.

9 POINT STRAW IS PAPER

The Treasury Department has announced an important change in practice in the dutiable classification of straw paper for the corrugated board industry, under which this paper, known as 9 point, being nine one thousandths of an inch in thickness, will in future be classified as paper, dutiable at 30 per cent, instead of board, dutiable at 10 per cent, as has been the practice for several years.

This decision is the result of representations made to the Department by the Import Committee of the American Paper Industry, and follows many months of study of the question by the customs authorities.

The decision is based on the fact that the imported commodity is made on a Fourdrinier machine, and therefore is paper, not board. The foreign importations have been chiefly from Holland and Germany, and the domestic mills have suffered severely from the foreign competition. One important phase of the situation has been that the foreign paper is claimed to be inferior to the domestic, and that the resulting corrugated board has been inferior in quality. At a time when the board industry is endeavoring to extend the market for the use of board containers, the damage to shipments through the use of inferior containers has been a serious handicap to the extension of the use of paper board. Domestic containers have been found satisfactory.

The United States Customs Court has found that there has been undervaluation on importations of the foreign straw paper, but these undervaluation cases were entirely separate from the other problem of classification.

Statistics—and Production Schedules

The relationship of statistics to production is rapidly becoming a subject of considerable importance in the paper industry.

Until recent years, many manufacturers found their markets stable and satisfactory because they were able to produce a product which was different and for which there existed a constant demand from customers who had purchased this commodity from them for years.

Then came the era of rapid expansion of production capacities. Any line which seemed to be profitable or which assured a reasonably steady production schedule was copied or duplicated. In this effort to duplicate, the main purpose was to produce apparently the duplication at a price less than that which it commanded previously.

This new production, competing on such a basis with the old product, resulted in conditions not satisfactory to any manufacturer. A striking example of this was in the field of papeteries where new sizes, styles, etc. multiplied rapidly and the buyer made small selected purchases from each of the producers so that none received adequate business and many lines were continued while unprofitable. A similar situation exists in book, wrapping and most every other grade of paper being manufactured.

That many new additions to production were ill advised and based on the lack of accurate data concerning production and consumption capacities is admitted.

The fault lies largely with the manufacturers of these grades of paper. One group of mills conscientiously reports the current production, shipments and stocks on hand. Another group holds aloof and refuses to contribute any data toward a stabilization of production.

The result seems obvious. Just so long as many mills refrain from cooperating in a subject so important to the industry, just so long will the lack of complete information tend to result in ill advised and unprofitable expansion which merely adds so much more direct competition to the established industry and to the mills individually.

The American Paper and Pulp Association will do its utmost in publishing to the mills through its bulletins, the compiled data as reported.

Mills not now reporting owe it to themselves and to the industry to cooperate in helping stabilize the paper and pulp industry. There are mills in many grades of paper not now reporting. If they will furnish monthly figures the Association will give in exchange the total figures for grades reported.

The future of your business depends largely on the amount and quality of your competition. The market will absorb only so much paper. The surest way to meet the future is by being re-inforced with the facts.

Co-operate! Send your reports to the Association and aid in helping to better a situation which already is leading to smaller profits, greater duplication and waste in abundance.

To Build News Paper Mill on Nelson River

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., July 20, 1927 A group of Canadian and American capitalists are reported to have filed an application in Ottawa for permission to erect a mill with a capacity of 400 tons of news print per day, according to a report from American Consul R. R. Winslow, at Winnipeg. The mill, which is to be located on the Nelson River, will probably require a concession covering 8,000,000 cords of pulp wood and its investment will probably be in the neighborhood of $10,000,000.

Pacific Paper Co. Contracts For Water

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., July 15, 1927.—The Pacific States Pulp & Paper Company on July 6 signed a 30-year contract for water to be delivered by the city of Aberdeen for a minimum of 7,000,000 gallons daily for a pulp plant to be built at Junction City.

Chicago Paper Market Steady

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., July 15, 1927.—It may be said that the paper trade industry has been sitting pretty since the last week in May. This statement cannot be misconstrued or interpreted to be a report of slow or below normal market. Dealers state "business to be better than they had expected," and a goodly number show sales of the past month surpassing those of a year ago. Coarse paper is steady, and fine paper has had a few nibbles which in all probability indicate the opening of the season by the advertising industries. Prices remain the same, and as indicated in the statement above, the demand is quickening.

Quick transportation facilities in Chicago have created a peculiar situation, in that the small buyer has forced the dealer to shunt the responsibility of carrying a large stock on hand. This, of course, cuts down the overhead expense of the dealer, but increases the burden on the mills. It has its attendant evils in that the dealer feels its effect in volume of business and increasing sales cost, i.e., the cost of small sales to "buy as used" type of customer versus the customer with the conservative reserve plan. It is only logical that someone must bear this expense, and the condition will only be remedied when some definite scheme is worked out to distribute the cost of this sudden buying tendency.

The Cycle of Seasons has decreed that summer should be the growing period in nature, and business is governed by the same decree, developing through these months to the harvest in the fall. Cultivation is of course necessary and consequently the weeding out unnecessary costs and expenses that may hinder the profits reaped. Chicago dealers are doing exactly this in the interim between spring and fall demands and have their respective organizations in readiness.

News Print Production for June

Production of news print in Canada during June 1927 amounted to 170,590 tons and shipments to 168,841 tons, according to the News Print Service Bureau. Production in the United States was 125,284 tons and shipments 122,377 tons, making a total United States and Canadian news print production of 295,874 tons and shipments of 291,218 tons. During June, 16.627 tons of news print were made in Newfoundland and 1,266 tons in Mexico, so that the total North American production for the month amounted to 313,767 tons.

The Canadian mills produced 102,290 tons more in the first six months of 1927 than in 1926, which was an increase of 12 per cent. The United States output was 72,729 tons, or 9 per cent less than for the first six months of 1926; that in Newfoundland 34,119 tons, or 40 per cent more, and in Mexico 1,426 tons, of 23 per cent more, making a total North American increase of 65,668 tons, or 4 per cent.

During June the Canadian mills operated at 84.7 per cent of rated capacity and the United States mills at 82.9 per cent. Stocks of news print paper at Canadian mills totaled 28.851 tons at the end of June and at United States mills 26,549 tons, making a combined total of 55,400 tons, which was equivalent to 4.1 days' average production.

To Build Paper Mill at Kelso

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., July 15, 1927.—A. E. Knight of the Kelso Shingle Company, Kelso, Wash., has announced that negotiations for the sale of an eight acre site in north Kelso with 2,000 feet frontage on the Cowlitz River are nearing completion, and that a company would use the property for the erection of a paper mill with a capacity of 30 tons a day. They expect to purchase pulp at first for the paper manufacture and will later build a pulp mill. Although the identity of the purchasers has to this time been secret it is known that the investment will total more than $150,000 and that employment will be given probably sixty persons.

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Section of the
Technical Association of the Pulp and Paper Industry

AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Conducted by W.G. MacNAUGHTON, Secretary

Purity Factors in Chemical Wood Pulp and their Relation to Paper*

By N. L. Nourse, Brown Co., Berlin, N. H.

We have often heard the old maxim that "No chain is stronger than its weakest link." In applying this to the manufacture of paper we could change it to read, "No paper is superior to the base fiber from which it is made." In other words, no amount of papermaking skill applied to a poor pulp fiber can make as good a sheet of paper as mediocre skill which develops the maximum possibilities from a high grade raw material. The ideal combination, of course, is a highly developed skill plus the best raw material.

Chemical Wood Pulp

Until a few years ago wood pulp was merely wood pulp. It was a white bleached fiber with as much length and strength as the cooking and bleaching processes would allow. Production of wood pulp was a matter of a uniform control of digester cooking and the subsequent bleaching, having in mind the spoiling of as few cooks or bleaches as possible. The resulting product with little reference to its properties was chemical wood pulp.

During and just after the World War was a period of rapid progress in the development of highly specialized wood pulps. The reason for such an outburst of varieties cannot be attributed to any one cause. There seemed to exist a variety of factors that exerted their influence within a short span of time. Some of these were:

(1)—The rapid growth of the rayon industry. (2)—The scarcity and price of rags during and after the war. (3)—The war investigation of wood cellulose for nitro-explosive purposes, both by private corporations and government bureaus. (4)—The education brought on by necessity alone, giving the paper mill and consumer an idea of the widespread possibilities of wood pulps for nearly all types of paper. (5)—The attractive American market after the war for foreign pulps of outstanding quality. (6)—The quality retrenchment of American and Canadian pulp concerns to save themselves from the inroads of lower priced foreign pulps.

A combination of these causes resulted in some very unique and important grades of wood pulp coming into the market. In place of the old type of general utility pulp we found appearing soft pulps, book pulps, easy bleaching pulps, high grade bond pulps, glassine pulps, silk pulps, and even a rag fiber substitute. The paper mill, as a result has become accustomed to shifting pulps in place of changing beating and operating procedures. This rapidly advanced the knowledge of the papermaker regarding the suitability of a pulp for a certain paper as well as better standardized his beating procedures.

Results of Investigation

The whole effect was one which brought forth higher and higher grades of wood pulp paper. A general scramble for a ruling quality ensued. Manufacturer of paper mill equipment, including beaters, paper machines, etc., kept apace with if not ahead of this progressive era. Makers of testing instruments devised better ways and means of determining when the quality of paper was right. These improvements placed our whole paper industry on a higher level of quality. But the most outstanding point in mind is the fact that these suddenly crystallized improvements merely opened our eyes to the possibilities of the future in both paper and pulp lines.

Reviewing the subject of chemical wood pulp alone, the mere fact that it is not put into paper requiring utmost permanency has led us all to disregard somewhat the chemical side of the fiber We are inclined to regard its physical nature as the one of importance and paper mill chemists have, in general, confined their efforts to the strength qualities alone of both chemical wood pulp and rag fibers.

The Purity Factors

On the other hand, chemical factors are really the underlying causes for the physical nature of a pulp. The physical tests are therefore only an indirect means of determining the real analysis of the fiber. The direct cause is undoubtedly of chemical nature. To these well developed chemical qualities we can only give the title of purity factors.

Before any fiber found in spruce wood can exist alone as chemical wood pulp it has to be isolated from the raw wood impurities that surround it in nature. The severity and rapidity of these chemical processes of isolation, confined mainly to cooking and bleaching, do to a major extent govern the physical length of the fiber. This basic length plus the purity of cellulose within the fiber really determines the beating properties of the pulp.

Of cellulose fiber the degree of purity can best be recognized by two simple tests. These are:—brightness of color, and alpha cellulose content. Impurities which are most dangerous to the quality of a well preserved pulp are (1) organic coloring matter,

* Presented at Annual Convention of the American Pulp and Paper Mill Superintendents' Association, Richmond, Va., May 25, 1927.

(2) unhydrolyzed wood gums, and (3) the oxidized byproducts of the cellulose itself.

The first named coloring matter if not completely removed lends a yellow or brown cast to the fiber and on aging grows decidedly darker.

The unhydrolyzed wood gums are unstable, are susceptible to slow oxidation and readily gelatinize on beating to form a hard "tinny" sheet of paper of a brittle nature. A large percentage of these gums in a pulp cannot be readily removed by bleaching alone. Therefore the result is a low colored pulp if the strength is maintained. A high color is possible only at sacrifice of strength and cellulose purity. Wood gums are one of the major causes that account for the differences between easy bleaching and hard bleaching pulps.

The third type of impurities, namely, cellulose degradation products, generally come from over oxidized conditions of cooking and bleaching. They seldom affect the original color of the bleached pulp, in fact, they often aid it. On aging, however, this high color does not carry through owing to the poor stability of the degraded cellulose. Cellulose of this type is readily recognized by its low alpha-cellulose content, for the degraded forms of cellulose are quite soluble in the alkali used for this test and are, therefore, removed with the beta and gamma portions.

High Grade New Rag Fiber the Standard

All this points toward the desirability of having a combination of high colored and high alpha cellulose content fibers for fine papers of enduring properties. High grade new, white rag fibers have possessed this combination of quality since first being used, thereby inheriting from nature a property which has to be artificially produced in wood pulp fibers. The fact that high grade new rags do possess both color and purity has stamped the approval of the ages on to rag papers for lasting qualities. Cheaper grades of colored and used rags require drastic cooking and bleaching to attain the color and cleanliness desired and do not measure up to the same standard of durability that the first mentioned class possesses.

This brings out the point that a rag content paper must contain cellulose of the highest color and alpha content before it can be classed as a permanent and enduring bearer of records. It is not the rag content itself but the cellulose purity that is the deciding factor. Chemical wood pulps of the past have never been seriously considered along permanency lines for the simple reason that the highest purity wood pulps were much inferior in the stable alpha-cellulose content to even the poorest of rags.

The advent of a high alpha cellulose wood pulp has now changed the complexion of this whole situation. Its purity leaped so far ahead of the average sulphite pulp that it classified itself directly among the better types of cotton rag cellulose. Therefore we see the last high wall between wood fibers and rag fiber being slowly torn down. Rag content alone is no longer a guarantee of a superior lasting quality in a sheet of paper, unless that guarantee is backed by actual cellulose analysis or accelerated aging tests.

In view of this situation it is most likely that the time is not far distant when all high grade papers of permanent or semi-permanent nature will be sold on a pure cellulose guarantee rather than a particular fiber content. There is really no reason for trade discrimination against any type or types of papermaking material so long as its performs its property duty and measures up to the user's expectations.

Mr. Gosta Hall, now with the Albemarle Paper Mfg. Company, has done some very extensive researches on permanency of paper and his conclusions also support strongly the fact that wood pulp papers, properly made, enjoy as permanent strength properties as cotton or linen papers. In respect to permanent color he also found that high alpha cellulose content correlated directly with color permanency. Some of his data was published in an article in the PAPER TRADE JOURNAL in April, 1926, and was very complete in its scope.

In conclusion let us visualize what we might expect should we analyse the average sheet of rag content paper for alpha cellulose content. We can roughly arrive at this figure by knowing the average analyses of the papermaking materials used plus the percentages blended for the paper in question. The papermaking materials considered are High Grade New Rags, Medium Grade New or High Grade Used Rags, High Alpha Cellulose Wood Pulp, Regular Bond Sulphite, Book Sulphite and Soda Pulp.

The Alpha Cellulose analyses of the above fiber types are roughly as follows:

	Max. %	Min. %	Ave. %
High grade new rags (11 samples tested)	98.35	93.67	96.54
Medium grade new and high grade old rags (8 samples tested)	96.68	79.00	91.09
High alpha cellulose wood pulp	94.00	93.00	93.50
Regular high grade bond sulphite	87.00	85.00	86.00
Book sulphite	86.00	82.00	84.00
Soda pulp (high colored)	84.00	80.00	82.00

According to the above table, if blends of the high grade new rags were made with types of the other materials ranging from 0 up to 100 per cent, we would have the following combinations of alpha cellulose purities:

ALPHA CELLULOSE CONTENT OF HIGH GRADE NEW RAG WITH PROPORTIONS OF OTHER FIBERS

	%	%	%	%	%
Per cent high grade new rag	100	75	50	25	0
Per cent blended fiber	0	25	50	75	100
High alpha cellulose pulp	96.54	95.78	95.20	94.26	93.50
Medium grade rags	96.54	95.18	93.83	92.45	91.09
Regular bond sulphite	96.54	93.91	91.27	88.64	86.00
Regular book sulphite	96.54	93.41	90.27	87.14	84.00
Soda pulp	96.54	92.91	89.27	85.64	82.00

Paper Durability and Alpha Cellulose Content

These figures illustrate the actual conditions that exist in rag content blends and the misconception that is likely to follow if any paper buyer attempts to use a paper of less than 75 per cent of the best new rag believing that by merely specifying rag he is buying cellulose permanency. The medium grade rags are, in nearly every case, of questionable purity for permanent uses. These include new colored rags which have to be drastically cooked and bleached to remove the colors, or the better types of old rags which have to be similarly treated to obtain a desirable color and cleanliness. Severe treatment of this nature is always damaging to cellulose purity whether in rag, wood, straw, or any type of cellulose. The introduction of chemical wood pulp into paper for permanent uses will undoubtedly be along lines of slow and careful progress. In looking forward not to next year but to the future generation, it is not too radical to predict that the finest papers will be made from high grade cellulose, the chemical quality classified according to cellulose content with little regard for the source of the raw materials so long as they meet the test requirements specified. The rapidly increasing knowledge of cellulose, the terrific rate of progress of the modern papermaker, the economic search for cheaper raw materials, and the desire of the most progressive mills to insure a continued full production in a saturated market by maintaining high quality at a satisfactory price, are all perfectly sound reasons why paper of the future may cease to be made along the more conventional fiber lines of the past.

To Have Charge of Experimental Research Laboratory

Gunnar Niklasson, who has been connected with Canada Paper Company, Windsor Mills, Que., during the past year, will go to Bogalusa in August where he will have charge of the experimental research laboratory which is equipped with a 30 inch paper machine.

Mr. Niklasson received his technical education at Chalmers College of Technology, Gothenburg, and after a few years of papermaking experience in Sweden at Klippans and Tagefors, came to United States where he was assistant superintendent of Poland Paper Company, Mechanic Falls, Me. Before his connection with Canada Paper Co. he was for about two years superintendent of Western Quebec Paper Mills, St. Andrews East, Que.

Effect of Atmospheric Humidity on the Moisture Content of Paper

By T. D. Jarrell *

It is well known that paper is markedly hydroscopic and its physical properties, especially resistance to folding, are effected by its moisture content.

Paper has a much lower moisture content when stored in dry regions than when stored where the humidity of the atmosphere is high, and its moisture content in any section varies from day to day. As most paper is bought and sold by weight, the quantity of moisture it contains is of concern from a monetary standpoint to both manufacturers and consumers.

Many investigations on the effect of humidity on the moisture content of paper and pulp have been reported.

Klemm[1] determined the rate of moisture absorption of paper in damp air by placing small samples of known weight and moisture content under a bell jar. The air inside the jar was kept saturated by means of wet filter paper. He found the initial rate of absorption to be much greater than the final rate. He reported also that sizing does not materially affect the rate or the amount of absorption, and that wood-free paper takes up moisture more readily than wood-containing papers.

Von Roessler, Fenchal and Cornly[2] exposed fifteen samples of paper pulp and five samples of paper in a closed chamber to various relative humidity conditions. The humidity was regulated by the use of calcium chloride. The atmospheric moisture is given at from 10 to 90 per cent relative humidity. Groundwood and manila pulps absorbed the most moisture. When the humidity was changed from 50 to 70 per cent, two hours were required for the pulp to become constant in weight. When the humidity was changed from 70 to 50 per cent it took a longer time to reach equilibrium.

Kress and McNaughton[3] determined the effect of various humidities on the moisture content of twenty-one samples of paper and five of pulp by suspending the sheets in a room maintained at 47, 65, 81, 87 and 95 per cent relative humidity and at a temperature ranging from 70 to 84 degrees F. They conclude that the longer fibered or more hydrated stocks absorb more moisture than the shorter fibered stocks,

Campbell[4] used several samples of writing and printing papers and controlled the humidity with sulphuric acid. No attempt was made to control the temperature, which varied from 69 to 82 degrees F. This investigator concluded that the moisture content of paper is independent of the "furnish" and also of the kind of paper used.

Wilson and Fuwa[5] reported the moisture content of three samples of pulp and four of paper at 15, 30, 50, 70 and 90 per cent relative humidity. Samples containing lignin had the highest moisture content.

Houston, Carson and Kirkwood[6] presented curves showing the moisture content of about ten samples of paper exposed in a room maintained at various humidity conditions. They say, "These curves are of value only in that they confirm the results of other investigators, and that the amount of moisture held in paper for a given relative humidity depends to some extent on the kind of paper."

Reed[7] worked on five samples of paper exposed in a room maintained at 35, 45, 55, and 65 per cent relative humidity and at a temperature of 20 to 80 degrees F. He concluded that the paper gained in weight about 1 per cent for each 10 per cent increase in humidity between 35 and 65 per cent. He does not say whether or not his results are based on the dry weight of the paper. Under the condition of his experiment the light-weight papers required about one hour to reach equilibrium, when they were transferred from an atmosphere of 35 per cent humidity to one of 65 per cent, and the heaviest papers required somewhat less than two hours.

Fay[8] presents some results of water absorption by several samples of various kinds of paper pulp under different conditions of atmospheric moisture. A hair hygrometer was used for measuring the relative humidity of the air and each sample was exposed for twelve hours only at each humidity condition. No mention is made as to whether the experiments were conducted in a room or compartment having a humidity and temperature control.

None of these investigators has published systematic data on the variation of moisture content of different papers of the same class but known to be made by different mills. Nor has any of them reported moisture results on paper which might show the moisture variation of any one sample exposed at a definite humidity and temperature condition when that condition was approached from a lower humidity and when it was approached from a high humidity.

Fuwa and Godbout[9] and Urquhart and Williams[10] found that more than one possible value for the moisture content of cotton may be obtained for a given humidity, depending upon whether that humidity is approached from a lower or from a higher humidity. Supplee[11], using milk powders, and Swan[12], working with dried films of boiled starch, also found that the hydration and dehydration curves for any one sample do not coincide.

All of these investigators found that the quantity of moisture retained by the samples, after equilibrium had been reached, was greater when the change in the relative humidity was from a higher to a lower one, than when the conditions were reversed. Preliminary results obtained in the Leather and Paper Laboratory in 1922 indicated that the same was true with respect to paper.

Experimental Procedure

The primary purposes of the present investigation were to ascertain (1) the moisture content of a large number of papers made by various mills after exposed to air at relative humidities rising from 35 per cent to 50, 65 and 80 per cent, and also to air of relative humidities decreasing from 80 per cent to 65, 50 and 35 per cent, (2) the rate at which moisture is absorbed when the relative humidity is raised from 35 to 65 per cent, and (3) the rate at which moisture is lost when the relative humidity is lowered from 65 to 35 per cent.

One sample of filter paper, 11 of bond, 9 of ledger, 6 of index bristol, 7 of book, 2 of cover, 3 of blotting, 8 of wrapping (1 rope, 3 kraft, 4 manila) and 3 of news print paper were used. About thirty mills manufactured the samples. Where there is more than one sample in any given class of paper they were made by different mills. Every sample was subdivided into two groups, each of which contained twenty 10 x 10 inch sheets. When the samples were collected the relative humidity was approximately 25 per cent in the laboratory. All samples were placed in a constant temperature and humidity room (3) maintained at 35 per cent relative humidity and 70 degrees F. The 20 sheets in each group were hung together loosely from wires stretched across the room. All samples of group 1 were weighed frequently over a period of not less than two weeks or until successive weights either were constant or fluctuated slightly in both directions from a mean value. The weighings were made on a 600 gram capacity Troemner rough analytical balance to within 0.01 gram. The lowest weight recorded in this work was 59.85 grams and the highest was 381.25 grams. After all the samples were sufficiently constant in weight to warrant the conclusion that they were in equilibrium with the surrounding

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atmosphere at 35 per cent relative humidity and 70 degrees F., the humidity was raised to 50 per cent and then to 65 and 80 per cent at 70 degrees F., and the weights were recorded as already described. When the samples had been conditioned at these increasing relative humidities, the procedure was repeated in the reverse direction and the weights were recorded in the same way. This procedure was repeated. The weights obtained were in the following order of relative humidities: 35-50-65-80-65-50-35-50-65-80 at 70 degrees F. during the entire period of the experiment,

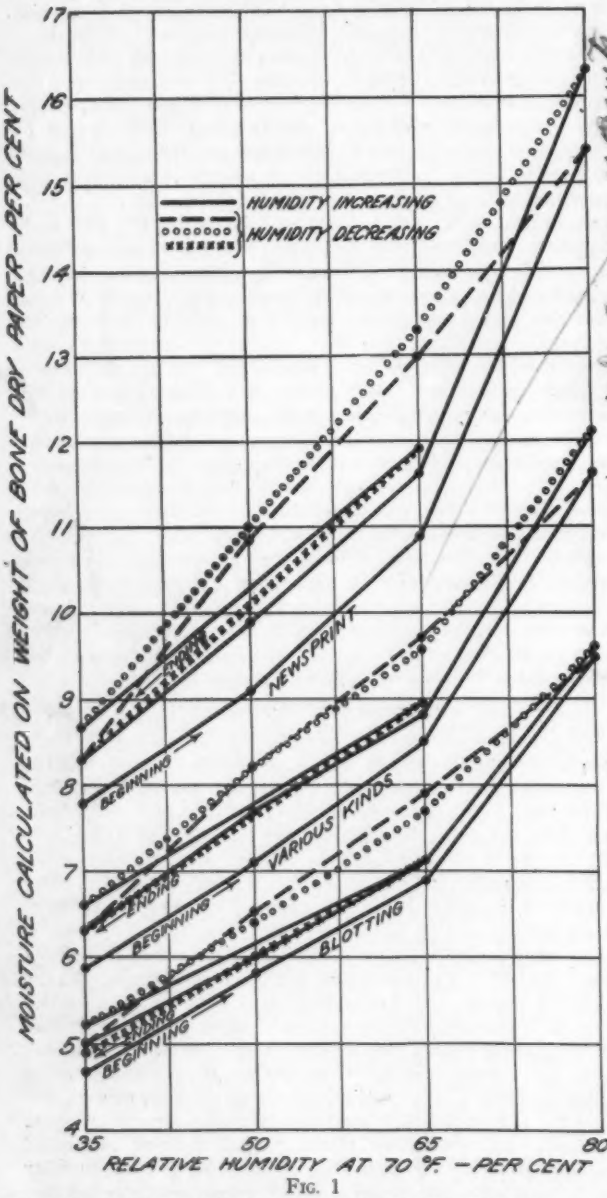

FIG. 1

Absorption and Loss of Moisture at Different Relative Humidities. Order of relative humidities at which paper exposed: Per cent 35, 50, 65, 80, 65, 50, 35, 50, 65, 80, 65, 50, 35, 65, 35.

which lasted from December 1, 1925, to December 23, 1926. The same portion of each sample was weighed throughout. The relative humidity was never allowed to go below 35 per cent or above 80 per cent.

When the paper samples were in equilibrium with the atmosphere at the first 50 per cent relative humidity condition, the moisture free weights of group 1 were found by determining moisture by the Bidwell and Sterling modification [4] of the toluene distillation method in a 20 gram portion cut from each of the 20 sheets comprising group 2. Repeat moisture determinations were made on several samples when they were constant in weight at 80 per cent relative humidity and again at 50 per cent. The moisture free weights checked very closely with those originally found. All moisture results and weights per ream reported in the tables are calculated from the moisture free weight as obtained by this procedure.

The humidity recorded on the hygrograph chart maintained a straight line during the entire period of each condition of exposure. Whenever the humidity was changed it was carefully checked with a sling psychrometer. There was not a measurable difference in humidity at the extreme sections of the room where the samples were placed. This was carefully checked many times with a sling psychrometer and also by changing a check sample of paper to various parts of the room after its weight had become constant.

Each individual sheet comprising the samples was apparently in equilibrium with the surrounding atmosphere at each relative humidity before the final weights were obtained. The individual sheets of some of the heaviest samples were frequently separated, after the weights had become constant at a given humidity, in such a way that all surfaces of each sheet were exposed to view. At no time was there a greater change in weight than there was with a check sample of 20 sheets hung loosely together in the ordinary manner.

The absorption of moisture by paper exposed in air of relative humidities rising from 35 per cent to 50, 65, and 80 per cent at 70 degrees F., and the loss of moisture by the same samples exposed in air of relative humidities decreasing from 80 per cent to 65, 50, and 35 per cent at 70 degrees F. are recorded in Tables 1 and 2. A description of each sample used in the experiment and all moisture results obtained are given in Table 1. Table 2 contains the summarized moisture results of the samples by classes of paper taken from Table 1. Figure 1 is a graphical presentation of absorption and loss of moisture over the entire range of relative humidities by a composite of three samples of newsprint which represented the class of paper containing the highest moisture content, a composite of three samples of blotting which represented the class containing the lowest moisture content, and a composite of fifty samples of various kinds. Moisture figures are expressed in percentage of the moisture free weight of the paper.

Only a few points in connection with these tables and diagram need discussion.

When the relative humidities are increased from 35 per cent to 50 and then to 65 per cent, the moisture results are appreciably lower than when the papers are exposed in air of humidities depressing from 80 to 65 and then to 50 per cent. When the samples are allowed to come to equilibrium under a relative humidity rising from 35 to 50 per cent, the average moisture content is 7.4 per cent. However, when the samples are allowed to come to equilibrium under a relative humidity decreasing from 80 to 50 per cent, the average moisture content is 8.2 per cent. This shows a difference of 0.8 per cent between the two sets of results at the same atmospheric conditions. These results are a mean of four moisture results at 50 per cent relative humidity, two up runs and two down runs on each sample. Practically the same difference is found at 65 per cent relative humidity.

It is shown that at a specified humidity and temperature the moisture content of a given sample of paper is not always the same, but depends upon whether the sample has been previously exposed at a higher or lower humidity. It is known that the actual moisture content of paper has a marked effect on the folding endurance. This may explain, in part at least, the recognized fact that folding endurance results on a given sample sometimes differ widely when it is tested at different times and places even though the test strips be always conditioned at the same specified relative humidity and temperature.

The first moisture results obtained under increasing relative humidities of 35, 50, 65, and 80 per cent are lower on practically

every sample than any of the other results at the same conditions of exposure. This is probably due to the fact that all samples had been exposed to a humidity lower than 35 per cent (about 25 per cent) just before starting this series, whereas the samples in the other series under the same humidity conditions were never exposed at a humidity lower than 35 per cent.

The results in Table 1 show the wide differences in the moisture values obtained on the various samples of the same class of paper. These differences are most clearly shown in the column under the second 80 per cent relative humidity (sixth column from right). The extreme variations are as follows:

Kind of Paper	No. of Samples	Moisture Content		
		Highest	Lowest	Difference
		%	%	%
Bond	11	12.7	10.6	2.1
Ledger	9	12.6	11.2	1.4
Index bristol	6	12.6	11.0	1.6
Book	7	11.6	10.5	1.1
Cover	2	12.1	12.0	0.1
Blotting	3	9.9	9.3	0.6
Wrapping	8	15.8	12.3	3.5
News print	3	16.5	16.1	0.4

The greatest variations among the different samples within the same class of paper occurred in wrapping paper. The highest result (15.8 per cent) on this class of paper at 80 per cent relative humidity was obtained on a rope wrapping, the stock of which consists of 82 per cent of jute or manila, and the lowest moisture result (12.3 per cent) at the same atmospheric condition on manila wrapping, the stock of which consisted of all coniferous wood (sulphite).

It should be emphasized that those papers were obtained from many sources. No doubt they had been exposed to widely different atmospheric conditions before being assembled. This may partly account for the differences in the moisture contents of the samples exposed at the same time and the same conditions of humidity and temperature.

The results in Table 1 also show that paper containing ground wood, rope, or sulphate pulp absorbs more moisture at a given humidity than does paper containing all rag, coniferous wood (sulphite) broad leaf wood, or a mixture of these. Compare samples H-1,2,3,4,7,8, and I-1,2,3 with the others. They also indicate that, in general, the samples with a high ash content absorb less moisture than those of relatively low ash content.

TABLE 1

ABSORPTION AND LOSS OF MOISTURE BY PAPER EXPOSED TO AIR AT DIFFERENT RELATIVE HUMIDITIES AND 70° F.
(Moisture Calculated on Weight of Moisture Free Paper)

Samples										Increasing Humidity				Decreasing Humidity			Increasing Humidity			Decreasing Humidity			Increasing Humidity from 35 to 65%	Decreasing Humidity from 65 to 35%
No.	Kind of Paper	Manufacturer	Ash	Stock * Rag	Coniferous	Broadleaf	Groundwood	Moisture free weight 25 x 40"—500		35[1]	50%	65%	80%	65%	50%	35%	50%	65%	80%	65%	50%	35%		
			%	%	%	%	%	lb.		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
A-1	Filter	28	0.2	100				130.0		5.4	6.6	7.7	10.5	8.6	7.2	5.5	6.6	7.7	10.7	8.5	7.0	5.6	7.6	5.2
B-1	Bond	8	0.7		100			51.0		6.1	7.4	8.9	12.1	10.1	8.4	6.4	7.9	9.2	12.7	10.1	8.5	6.7	9.3	6.5
B-2	Bond	9	6.9		100			50.5		4.7	5.7	7.0	9.9	8.2	6.6	4.9	6.2	7.4	10.6	8.3	6.8	5.2	7.6	5.0
B-3	Bond	6	0.6		85	15		50.0		6.0	7.2	8.7	11.9	10.0	8.2	6.4	7.7	9.0	12.5	10.0	8.3	6.6	9.1	6.4
B-4	Bond	15	1.1	100				53.0		5.8	6.6	7.8	10.7	8.9	7.5	6.0	7.1	8.2	11.1	9.0	7.6	6.2	8.3	6.0
B-5	Bond	11	1.2	100				51.5		6.4	7.3	8.6	11.4	9.7	8.2	6.5	7.6	8.7	12.2	9.8	8.3	6.8	8.9	6.5
B-6	Bond	16	0.7	100				48.0		5.5	6.4	7.8	10.6	8.8	7.4	5.8	6.8	8.0	11.0	8.8	7.4	6.1	8.0	5.8
B-7	Bond	12	0.8	55	45			50.0		6.3	7.3	8.7	11.6	9.8	8.2	6.5	7.7	8.9	12.1	9.8	8.3	6.7	9.1	6.5
B-8	Bond	13	0.9	55	45			49.0		5.9	7.0	8.4	11.4	9.5	8.0	6.4	7.5	8.7	11.7	9.6	8.1	6.7	8.8	6.4
B-9	Bond	11	1.0	38	62			49.0		5.8	6.8	8.3	11.2	9.2	7.6	5.9	7.2	8.3	11.5	9.2	7.8	6.2	8.5	6.0
B-10	Bond	10	0.9	35	65			48.5		6.6	7.8	9.1	12.1	10.1	8.4	6.6	7.9	9.2	12.7	10.1	8.6	6.8	9.3	6.7
B-11	Bond	14	1.0	30	70			53.5		6.3	7.3	8.8	11.8	9.9	8.2	6.6	7.8	9.0	12.1	9.9	8.4	6.8	9.1	6.5
C-1	Ledger	8	0.6		100			94.0		5.9	7.2	8.8	12.0	10.0	8.3	6.4	7.9	9.2	12.6	10.2	8.6	6.8	9.3	6.5
C-2	Ledger	17	4.6		100			67.0		6.0	7.2	8.2	11.5	9.6	8.1	6.3	7.6	8.8	12.1	9.8	8.3	6.6	9.0	6.4
C-3	Ledger	10	1.2		91	9		79.0		5.7	6.8	8.3	11.2	9.3	7.7	6.0	7.3	8.6	11.8	9.5	7.9	6.3	8.7	6.0
C-4	Ledger	13	1.0	100				81.0		5.5	6.6	8.1	10.8	9.1	7.7	6.1	7.1	8.2	11.2	9.0	7.7	6.3	8.2	6.0
C-5	Ledger	18	0.3	100				87.0		5.1	6.3	7.8	10.6	8.8	7.4	5.8	6.9	8.0	11.2	8.9	7.5	6.0	8.1	5.8
C-6	Ledger	28	0.4	61	39			81.5		5.7	6.7	7.7	10.8	9.0	7.5	5.8	7.0	8.1	11.3	9.0	7.5	6.1	8.3	5.8
C-7	Ledger	14	1.0	60	40			70.0		6.0	7.0	8.2	11.1	9.4	7.9	6.3	7.4	8.6	11.6	9.3	7.9	6.5	8.6	6.3
C-8	Ledger	12	0.7	57	43			82.5		5.6	6.7	8.2	11.1	9.2	7.7	6.0	7.2	8.4	11.5	9.2	7.8	6.2	8.5	6.0
C-9	Ledger	14	0.8	23	77			74.0		6.4	7.4	8.7	11.9	10.0	8.5	6.7	7.9	9.1	12.2	9.9	8.5	6.9	9.2	6.6
D-1	Index Bristol	25	0.9	51	49			165.0		5.7	6.7	7.8	10.7	8.9	7.5	5.9	7.0	8.1	11.0	9.0	7.5	6.1	8.2	5.8
D-2	Index Bristol	14	1.0	32	68			130.5		6.0	7.1	8.4	11.5	9.6	8.1	6.3	7.5	8.7	11.8	9.6	8.1	6.6	8.8	6.3
D-3	Index Bristol	26	1.4		82	18		129.5		5.9	7.2	8.7	11.8	9.8	8.2	6.4	7.7	8.9	12.0	9.8	8.2	6.6	9.1	6.4
D-4	Index Bristol	10	0.4		74	26		164.5		6.0	7.4	9.1	12.5	10.4	8.8	6.8	8.1	9.4	12.6	10.4	8.7	7.0	9.5	6.8
D-5	Index Bristol	18	10.8		53	47		119.0		5.2	6.6	8.1	10.8	9.1	7.6	5.9	6.6	8.2	11.1	9.1	7.6	6.2	8.3	5.9
D-6	Index Bristol	19	8.7		45	55		136.5		5.6	6.7	8.2	11.2	9.4	7.9	6.1	7.3	8.4	11.5	9.4	7.8	6.4	8.6	6.1
E-1	Book, M. F.	4	9.4		100			40.0		5.4	6.6	8.0	10.9	9.1	7.5	5.9	7.0	8.2	11.4	9.1	7.6	6.1	8.4	6.0
E-2	Book, M. F.	28	14.1		57	43		49.0		5.3	6.3	7.1	9.8	8.2	6.9	5.4	6.6	7.5	10.5	8.4	7.0	5.7	7.8	5.5
E-3	Book, M. F.	5	11.5		42	58		41.0		5.1	6.3	7.6	10.3	8.5	7.1	5.5	6.7	7.7	10.8	8.6	7.2	5.7	8.0	5.6
E-4	Book, S. and S. C.	4	6.8		90	10		44.0		5.7	6.8	8.2	11.1	9.3	7.8	6.1	7.2	8.4	11.6	9.3	7.9	6.4	8.6	6.1
E-5	Book, S. and S. C.	5	11.6		52	48		47.5		5.1	6.2	7.5	10.2	8.5	7.0	5.5	6.6	7.7	10.7	8.5	7.2	5.7	7.8	5.5
E-6	Book, S. and S. C.	6	15.6		46	54		56.5		5.1	6.0	7.2	9.8	8.3	6.9	5.4	6.4	7.5	10.5	8.4	7.1	5.6	7.7	5.5
E-7	Book, Laid Antique	7	0.6	72	28			83.0		5.4	6.7	8.1	11.0	9.2	7.7	6.0	7.1	8.3	11.5	9.2	7.7	6.1	8.4	6.0
F-1	Cover	8	7.3		100			89.0		5.5	6.7	8.5	11.6	9.5	7.9	6.1	7.4	8.7	12.0	9.6	8.0	6.4	8.8	6.2
F-2	Cover	19	7.9		100			91.0		6.2	7.2	8.8	11.6	9.7	8.3	6.5	7.6	8.9	12.1	9.8	8.3	6.7	8.9	6.5
G-1	Blotting	28	18.2	25[2]				200.0		4.6	5.6	6.6	9.1	7.6	6.3	4.8	5.8	6.8	9.3	7.5	6.2	5.0	6.9	4.8
G-2	Blotting	27	18.4		17	83		209.5		4.8	5.9	7.1	9.8	8.1	6.7	5.2	6.2	7.3	9.9	7.9	6.6	5.3	7.3	5.1
G-3	Blotting	19	23.1		15	85		171.0		4.8	5.9	7.1	9.6	7.9	6.6	5.1	6.1	7.1	9.6	7.7	6.4	5.2	7.0	4.8
H-1	Wrapping, Rope	24	3.0		18[3]			67.5		7.5	9.1	11.2	15.2	13.0	10.7	8.6	9.9	13.1	15.8	13.0	10.9	8.9	11.7	8.5
H-2	Wrapping, Kraft [4]	21	0.9					55.5		6.4	7.9	10.0	13.6	11.3	9.4	7.3	8.7	10.2	14.2	11.3	9.4	7.5	10.3	7.3
H-3	Wrapping, Kraft [4]	22	0.8					66.0		6.6	7.8	9.8	13.5	11.2	9.3	7.2	8.6	10.1	14.1	11.2	9.4	7.5	10.2	7.2
H-4	Wrapping, Kraft [4]	21	0.9					61.5		6.2	7.9	9.9	13.4	11.1	9.3	7.2	8.6	10.1	14.1	11.2	9.3	7.5	10.2	7.3
H-5	Wrapping, Manila	23	0.6		100			64.5		5.8	7.0	8.7	11.9	9.8	8.2	6.4	7.6	8.9	12.6	10.1	7.8	6.7	9.2	6.4
H-6	Wrapping, Manila	28	0.3		100			62.5		5.7	7.0	8.5	11.7	9.8	8.1	6.3	7.7	8.8	12.3	9.9	8.2	6.6	9.1	6.4
H-7	Wrapping, Manila	28	0.4		85		15	74.0		6.4	7.8	9.3	12.2	10.3	8.7	6.6	8.0	9.4	12.8	10.4	8.7	6.9	9.4	6.6
H-8	Wrapping, Manila	20	1.1		62		38	53.0		6.6	8.0	10.2	14.2	11.9	10.0	7.7	9.1	10.6	14.9	12.2	10.1	8.0	10.9	7.7
I-1	News Print	3	0.4		48		52	34.0		7.5	8.9	10.7	15.2	12.9	10.8	8.2	9.9	11.4	16.1	13.2	10.9	8.7	11.8	8.2
I-2	News Print	2	0.3		27		73	33.0		8.0	9.5	11.4	15.6	13.2	11.0	8.4	10.0	11.7	16.4	13.4	11.1	8.8	12.0	8.4
I-3	News Print	1	0.5		26		74	33.5		7.9	9.0	10.7	15.5	13.0	10.9	8.2	9.9	11.6	16.5	13.3	11.0	8.7	11.9	8.2
	General Average (Composite of all samples)									5.9	7.1	8.5	11.6	9.7	8.2	6.3	7.7	8.8	12.1	9.6	8.2	6.6	8.9	6.3

* Stock determinations made by Dr. E. A. Read, of the Microchemical Laboratory.
[1] All samples were exposed to a humidity of about 25% just before they were conditioned at the first 35% relative humidity.
[2] Remainder of stock, coniferous and broadleaf.
[3] Remainder of stock, jute or manila.
[4] Stock, all sulphate.

TABLE 2

ABSORPTION AND LOSS OF MOISTURE BY PAPER EXPOSED TO AIR AT DIFFERENT RELATIVE HUMIDITIES AND 70° F.

(Summarized Results By Classes of Paper)

Moisture Calculated on Weight of Moisture Free Paper

Relative Humidities	Moisture Absorbed or Lost — Filter— (1 sample)				Bond— (11 samples)				Ledger— (9 samples)				Index Bristol— 6 samples)				Book—(3 M.F. & 3 S.&S.C.)				Cover— (2 samples)				Blotting— (3 samples)				Wrapping (1 rope, 3 kraft, 4 manila)				News Print— (3 samples)			
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
35[1]	5.4	..	..	...	5.9	..	..	...	5.8	..	..	...	5.7	..	..	...	5.3	..	..	...	5.9	..	..	...	4.7	..	..	...	6.4	..	..	...	7.8	..	..	...
50	..	6.6	..	...	..	7.0	..	...	..	6.9	..	...	..	7.0	..	...	..	6.4	..	...	..	7.0	..	...	..	5.8	..	...	..	7.8	..	...	..	9.1	..	...
65	..	..	7.7	...	..	..	8.4	...	..	..	8.2	...	..	..	8.4	...	..	..	7.6	...	..	..	8.7	...	..	..	6.9	...	..	..	9.7	...	..	..	10.9	...
80	..	..	..	10.5	..	..	..	11.3	..	..	..	11.2	..	..	..	11.4	..	..	..	10.4	..	..	..	11.6	..	..	..	9.5	..	..	...	13.2	..	..	...	15.4
65	..	..	8.6	...	..	..	9.5	...	..	..	9.4	...	..	..	9.5	...	..	..	8.7	...	..	..	9.6	...	..	..	7.9	...	..	..	11.1	...	..	..	13.0	...
50	..	7.2	..	...	..	7.9	..	...	..	7.9	..	...	..	8.0	..	...	..	7.2	..	...	..	8.1	..	...	..	6.5	..	...	..	9.2	...	...	..	10.9	...	...
35	5.5	..	..	...	6.2	..	..	...	6.2	..	..	...	6.2	..	..	...	5.6	..	..	...	6.3	..	..	...	5.0	..	..	...	7.2	..	...	...	8.3	..	...	...
50	..	6.6	..	...	..	7.4	..	...	..	7.4	..	...	..	7.4	..	...	..	6.8	..	...	..	7.5	..	...	..	6.0	..	...	..	8.5	...	...	..	9.9	...	...
65	..	..	7.7	...	..	..	8.6	...	..	..	8.6	...	..	..	8.5	...	..	..	7.8	...	..	..	8.8	...	..	..	7.1	...	..	..	10.2	...	..	..	11.6	...
80	..	..	..	10.7	..	..	..	11.8	..	..	..	11.7	..	..	..	11.7	..	..	..	10.9	..	..	..	12.1	..	..	..	9.6	..	..	...	13.9	..	..	...	16.3
65	..	..	8.5	...	..	..	9.5	...	..	..	9.4	...	..	..	9.6	...	..	..	8.7	...	..	..	9.7	...	..	..	7.7	...	..	..	11.2	...	..	..	13.3	...
50	..	7.0	..	...	..	8.0	..	...	..	8.0	..	...	..	8.0	..	...	..	7.3	..	...	..	8.2	..	...	..	6.4	..	...	..	9.2	...	...	..	11.0	...	...
35	5.6	..	..	...	6.4	..	..	...	6.4	..	..	...	6.5	..	..	...	5.9	..	..	...	6.6	..	..	...	5.2	..	..	...	7.5	..	...	...	8.7	..	...	...
65	..	..	7.6	...	..	..	8.7	...	..	..	8.7	...	..	..	8.8	...	..	..	8.1	...	..	..	8.9	...	..	..	7.1	...	..	..	10.1	...	..	..	11.9	...
35	5.2	..	..	...	6.2	..	..	...	6.2	..	..	...	6.2	..	..	...	5.7	..	..	...	6.4	..	..	...	4.9	..	..	...	7.2	..	...	...	8.3	..	...	...
Average	5.4	6.9	8.0	10.6	6.2	7.6	8.9	11.6	6.2	7.6	8.9	11.5	6.2	7.6	9.0	11.6	5.6	6.9	8.2	10.7	6.3	7.7	9.1	11.9	5.0	6.2	7.3	9.6	7.1	8.7	10.5	13.6	8.3	10.2	12.1	15.9

[1] All samples were exposed to a humidity of about 25% just before they were conditioned at the first 35% relative humidity.

TABLE 3

RATE OF MOISTURE ABSORPTION ON INCREASING RELATIVE HUMIDITY FROM 35% TO 65% AT 70° F.

(Based on Weight of Paper at 35% R. H.)

Sample No.	Kind of Paper[1]	INCREASE IN WEIGHT AT END OF — ½ hr. %	1 hr. %	2 hr. %	4 hr. %	6 hr. %	24 hr. %	30 hr. %	2 days %	4 days %	5 days %	6 days %	7 days %	8 days %	9 days %	11 days %	12 days %	13 days %
A-1	Filter	0.64	1.05	1.42	1.76	1.89	2.00	2.02	2.10	2.06	2.06	2.10	2.11	2.11	2.08	2.11	2.11	2.10
B-1	Bond	0.80	1.22	1.79	2.27	2.36	2.38	2.42	2.52	2.46	2.46	2.51	2.53	2.52	2.49	2.53	2.52	2.52
D-1	Index Bristol	0.50	0.74	1.05	1.37	1.54	1.88	1.92	2.04	2.01	2.04	2.07	2.07	2.07	2.05	2.07	2.07	2.07
E-3	Book, M.F.	0.90	1.22	1.71	2.03	2.09	2.03	2.05	2.12	2.08	2.06	2.09	2.14	2.13	2.10	2.14	2.14	2.13
E-6	Book, S. & S.C.	0.83	1.28	1.84	1.96	2.03	1.99	1.99	2.08	2.04	2.03	2.07	2.09	2.08	2.06	2.06	2.08	2.08
G-3	Blotting	0.57	0.79	1.11	1.41	1.54	1.72	1.75	1.82	1.78	1.81	1.83	1.84	1.83	1.81	1.84	1.84	1.84
H-1	Wrapping, Rope	0.89	1.21	1.69	2.10	2.31	2.49	2.52	2.64	2.62	2.64	2.67	2.68	2.69	2.67	2.70	2.70	2.70
H-2	Wrapping, Kraft	0.98	1.38	1.90	2.35	2.51	2.59	2.61	2.74	2.68	2.69	2.73	2.73	2.74	2.70	2.74	2.74	2.74
H-5	Wrapping, Manila	1.10	1.50	2.00	2.32	2.41	2.41	2.43	2.51	2.46	2.48	2.51	2.51	2.50	2.50	2.51	2.51	2.51
I-3	News Print	1.32	2.89	2.92	2.98	2.99	2.39	1.78	2.29	2.84	2.98	3.01	3.03	3.04	3.03	3.03	3.03	3.03
General Average—																		
Per cent increase in weight		0.85	1.22	1.69	2.04	2.17	2.24	2.26	2.36	2.32	2.33	2.36	2.37	2.37	2.35	2.37	2.37	2.37
Rate of gain as per cent of maximum gain		36	52	71	86	92	95	95	100	98	98	100	100	100	99	100	100	100

[1] See Table 1 for fuller descriptions of samples.

TABLE 4

RATE OF MOISTURE LOSS ON DECREASING RELATIVE HUMIDITY FROM 65% TO 35% AT 70° F.

(Based on Weight of Paper at 65% R H.)

Sample No.	Kind of Paper[1]	DECREASE IN WEIGHT AT END OF — 2 hr. %	4 hr. %	24 hr. %	2 days %	4 days %	5 days %	6 days %	7 days %	8 days %	9 days %	11 days %	12 days %	13 days %	14 days %	18 days %	20 days %	25 days %	26 days %
A-1	Filter	1.55	1.83	2.14	2.37	2.41	2.45	2.47	2.50	2.48	2.49	2.52	2.50	2.50	2.48	2.50	2.49	2.50	2.50
B-1	Bond	1.82	2.22	2.49	2.70	2.73	2.75	2.76	2.80	2.77	2.77	2.82	2.78	2.80	2.77	2.78	2.78	2.79	2.79
D-1	Index Bristol	1.16	1.46	1.97	2.27	2.34	2.37	2.40	2.42	2.40	2.42	2.43	2.40	2.41	2.40	2.43	2.40	2.43	2.43
E-3	Book, M.F.	1.83	2.00	2.28	2.39	2.44	2.46	2.46	2.49	2.50	2.46	2.51	2.48	2.49	2.48	2.49	2.48	2.49	2.49
E-6	Book, S. & S.C.	1.76	1.96	2.22	2.37	2.39	2.43	2.45	2.46	2.45	2.43	2.49	2.46	2.49	2.46	2.46	2.46	2.47	2.47
G-3	Blotting	1.16	1.46	1.97	2.27	2.34	2.37	2.40	2.42	2.40	2.42	2.43	2.41	2.41	2.40	2.43	2.41	2.43	2.43
H-1	Wrapping, Rope	1.95	2.24	2.80	3.07	3.16	3.19	3.26	3.27	3.26	3.25	3.31	3.28	3.27	3.26	3.31	3.28	3.31	3.31
H-2	Wrapping, Kraft	2.01	2.34	2.79	3.00	3.09	3.13	3.13	3.15	3.15	3.15	3.20	3.16	3.15	3.13	3.16	3.15	3.17	3.16
H-5	Wrapping, Manila	2.11	2.35	2.68	2.84	2.88	2.93	2.96	2.97	2.97	2.96	3.00	2.97	2.95	2.95	2.95	2.94	2.98	2.96
I-3	News Print	2.42	2.85	3.31	3.59	3.73	3.75	3.77	3.80	3.80	3.80	3.84	3.83	3.84	3.83	3.84	3.83	3.84	3.84
General Average—																			
Per cent loss in weight		1.78	2.07	2.47	2.69	2.75	2.78	2.81	2.83	2.81	2.82	2.86	2.83	2.83	2.82	2.84	2.82	2.84	2.84
Rate of loss as per cent of maximum loss		62	72	86	94	96	97	98	99	98	99	100	99	99	99	99	99	99	99

[1] See Table 1 for fuller description of samples.

The classes of paper used in the experiments when exposed to an atmosphere of from 35 per cent to 80 per cent relative humidity at 70 degrees F. fall in the following order from highest to lowest in moisture content (Table 2). Newsprint wrapping, cover, bond, index bristol, ledger, book, filter and blotting. Practically the same amount was found in cover, bond, ledger and index bristol. Book and filter papers also contain about the same amount, but somewhat less than cover, bond, ledger and index bristol. Newsprint paper, which carries a greater amount of moisture than any other class used, contains 8.3 per cent moisture at 35 per cent relative humidity, 10.2 per cent moisture at 50 per cent relative humidity, 12.1 per cent at 65 per cent relative humidity, and 15.9 per cent at 80 per cent relative humidity. Blotting paper, which has a lower moisture content than any other class used, contains 5.0 per cent moisture at 35 per cent relative humidity, 6.2 per cent at 50 per cent relative humidity, 7.3 per cent at 65 per cent relative humidity, and 9.6 per cent at 80 per cent relative humidity. (Table 2 and Figure 1.)

A composite of all fifty samples shows a moisture content of 6.3 per cent at 35 per cent relative humidity, 7.8 per cent at 50 per cent relative humidity, 9.1 per cent at 65 per cent relative humidity, and 11.9 per cent at 80 per cent relative humidity. (Table 2 and Figure 1.)

Results on the rate of absorbing moisture when the relative humidity is increased from 35 per cent to 65 per cent at 70 degrees F. are given in Table 3, and results on the rate of losing moisture when the relative humidity is brought back to 35 per cent are recorded in Table 4. Ten typical samples representing all classes of paper given in Table 1 were used in this experiment. The samples were exposed in the same way as described under "Experimental Procedure."

When the humidity is increased from 35 to 65 per cent, from 51 (index bristol) to 88 per cent (S. & S.C. book) of the entire increase in weight takes place within the first two hours, and the average of all samples is 71 per cent. There is a general increase in weight for all samples after exposure for 4, 6, 24 and 30 hours, and all samples are practically constant in weight after exposure for 48 hours. On the other hand, when the samples are transferred from an atmosphere at 65 per cent to one at 35 per cent relative humidity, the rate of loss as per cent of maximum loss in two hours, ranges from 48 (index bristol and blotting) to 73 per cent (M. F. book), and the average for all samples is 62 per cent. There is a gradual decrease in weight for all samples after exposure for 4, 24, 48, 96 and 120 hours. All samples are practically constant in weight after exposure for six days. These results show that when paper is transferred from an atmosphere of 35 per cent relative humidity to one at 65 per cent and then back again to 35 per cent humidity, moisture is absorbed more rapidly than it is lost.

The amount of moisture absorbed and lost by 50 samples of paper exposed successively in air of 35, 50, 65, 80, 65, 50, 35, 50, 65, 80, 65, 50, 35, 65 and 35 per cent relative rumidities at 70 degrees F. was determined. The results show that the moisture content of paper is appreciably higher at 50 and 65 per cent relative humidity and 70 degrees F. when these conditions are approached from a high humidity (80 per cent) than when approached from a low humidity (35 per cent). Some samples from paper of the same class show a wide difference in moisture content. Paper containing ground wood, rope, or sulphate pulp (kraft) contains more moisture at a given humidity than paper made of all rag, coniferous wood (sulphite), broad leaf wood, or a mixture of these. Newsprint paper has a higher and blotting paper a lower moisture content than any of the other classes of paper used in the experiments.

Experiments on the rate of absorption and loss of moisture when paper is transferred from an atmosphere of 35 per cent relative humidity to one at 65 per cent at 70 degrees F., and then back to 35 per cent humidity showed that moisture is absorbed more rapidly than it is lost. In general, under the conditions of the experiment, 48 hours is required for the attainment of equilibrium when the paper is transferred from 35 to 65 per cent relative humidity, and about six days when it is changed from 65 to 35 per cent relative humidity.

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Automatic Combustion Control

Modern boiler practice in large plants demands a degree of exact control which is practically impossible of attainment with manual methods. To attain perfect results would require that the operator, flow of steam, flow of air, rate of feeding fuel, combustion chamber pressure and other variables in each furnace, and from instant to instant make such readjustments of the stokers, fuel feeders, fans, dampers, etc., as are indicated as necessary by the ever-changing conditions.

An automatic system of metered combustion control for boiler furnaces is described in Bulletin No. 660, published by the Leeds & Northrup Company, Philadelphia. An electrical current controlled by steam pressure and flow in the steam main cooperates with air or gas flow meters, furnace pressure meters, and stoker or fuel feeder meters to regulate stokers, fuel feeders, fans and dampers as required to preserve constant steam pressure, to secure the desired division of load among boilers, to insure the most favorable furnace percentage of excess air of CO_2, and to hold the most favorable furnace pressure. Each fire receives only its alloted air supply, regardless of whether it is thick or thin or whether one or several fires are fed from a common duct, or whether the furnace is near to or far from the chimney. The quantity of air supplied to burn each pound of fuel is definite.

At the same time, the system permits manual intervention to any desired degree. Some of the boilers of a plant can, at will, be operated under hand control, with fuel and air automatically held in a fixed ratio, while the remaining boilers under full automatic control take care of the fluctuations in steam demand; or individual boilers can be operated by push button control or by actual manual adjustment of dampers, etc., as when bringing a cold boiler up to load. Also, due to the simplicity and flexibility of the electrical control method, supplementary regulating actions are easily provided, such as variation of the ratio of air flow to fuel feed with load, or with temperature of furnaces; compensation of the fuel-feed air-flow ratio from flue gas composition, so as to compensate irregular feeder actions; proportioning of primary, secondary and tertiary air supplies to one another or of air supplies to individual zones of a stoker or of a combustion chamber; control of furnace vacuum to a constant value or to a value varying with load, and other regulative effects desirable to meet particular conditions. Apparatus and hook-ups are shown for both stoker and powdered fuel plants, also steam flow and pressure charts and CO_2 records illustrating the results attained in commercial plants under automatic control.

The Alexander-Youngchild Wire Cleaner*

By C. E. Youngchild

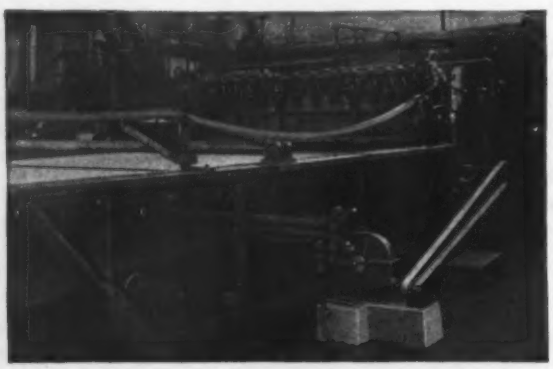
The Alexander-Youngchild Wire Cleaner is a mechanism for automatic and continuous scrubbing of the fourdrinier papermachine wire in order to keep it free from spots of all kinds and eliminate the troubles caused by pitch, grit and other foreign matter that is bound to accumulate on the wire.

It may be of interest to know how the wire cleaner came to be invented. I have been a paper maker for twenty-seven years, and in my time I have seen papermachines shut down for the purpose of scrubbing spots off the wire with a frequency and a length of time that would have meant many thousands of dollars in increased production and reduced overhead, if the machines could have been kept running. And if, added to this, the waste resulting from imperfect paper caused by wire spots could be computed, the loss would run into many thousands more.

It, therefore, naturally occurred to me, as it undoubtedly has to many others, that a device that would automatically clean the wire without the necessity of stopping the papermachine would be an exceedingly valuable appliance to have on any paper machine.

Every one knows from experience what a job it is at best to take spots off a wire with hand brushes. But probably many have discovered as I did, that wherever it was possible to use two brushes one on top and another beneath the wire, rubbing the brushes briskly in opposite directions, this was the easiest and most effective way to remove stubborn spots from the wire.

It seemed logical, therefore, to construct an automatic machine that would duplicate this oscillating action of the brushes across the entire width the full length of the wire. The Alexander-



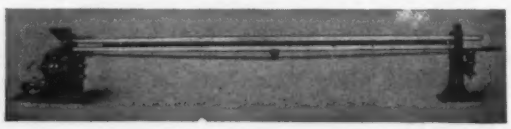
Wire Cleaner Installed on Paper Machine

Youngchild wire cleaner is, then, simply two narrow brushes which extend across the papermachine wire at any convenient point on its return run, and which oscillate in opposite directions continuously so as to keep the entire width of the wire, at a given point on its return run, constantly scrubbed. The idea is that this constant scrubbing action will get the stubbornest spots before they have a chance to become hammered into the wire.

First Built at Nekoosa

I tried out my first machine at the Nekoosa-Edwards mill on a Yankee machine with a 70 mesh wire making a screenings machine glazed paper, 20 pound basis. This coarse stock had so much dirt in it that after running a few hours the wire would become so spotted with shives, pitch and grease that it was practically impossible to clean it. We used to scrub one of these wires by hand with wire brushes and kerosene and gasoline for twelve hours, and then we would not get it clean. After putting on the automatic cleaner we were able to run the same grade of paper for three or four days at a time without stopping to clean the wire, and the spots were completely eliminated. In fact, I have changed from a run of screenings to a run of 20-pound kraft paper combined with a filler of asphalt, and have not had to clean a single spot off the wire or throw away a single sheet of the paper. This, I felt, was surely a drastic test for an automatic cleaning device, and it certainly made me feel that I was on the right track.

The first thought that probably occurs to many and which occurred to me when I put the cleaner on the machine was that it



Alexander-Youngchild Wire Cleaner

would be very hard on the wire. But, surprisingly enough, I found that the wire actually lasted longer than before. I think I can explain this in the following way.

Increases the Life of the Wire

Probably ninety per cent of the wear on the wire is caused by the abrasive action in passing over the wire rolls and flat suction boxes, and this is greatly accentuated by the grit which accumulates on the wire. By keeping the meshes of the wire entirely free of grit, the wire cleaner reduces this abrasive action very materially and lessens the chance for the wire stiffening and cracking as it passes over rolls and suction boxes.

We keep careful records of wire life at the Nekoosa-Edwards Mill, and the figures there certainly showed a very distinct increase in the life of the wires after installing the wire cleaner. I can give figures which are averaged from operating periods of six months or longer, as follows:

Machine No.	Before using wire cleaner days	Using wire cleaner days
1	24	66
2	26	42
3	24	35
4	29	40

The application of the wire cleaner develops other interesting and important operating advantages. It does the work which must otherwise be attempted by the use of a large volume of shower water. In some cases it has been found possible to eliminate all but one shower pipe and that one may be supplied with white water. This large reduction in the amount of water needed for showers means a considerable saving in operation and a material reduction in white water and the attendant stock loss.

* Presented at Annual Convention of the American Pulp and Paper Mill Superintendents' Association, Richmond, Va., May 25, 1927.

Traveling Water Intake Screens

In its Bulletin B-3 just issued, Link Belt Company, Chicago, describes the construction and operation of its traveling intake water screens which in their operation are cleaned continuously and automatically of trash, needle ice and slush that may be in the water supply.

Among the installations shown are central power stations and water filtration plants as well as the Tyrone, Pa., plant of West Virginia Pulp & Paper Company.

It is probable that many paper mills with hydroelectric plants or drawing their mill water supply from streams, could use this equipment to advantage.

Fixation of Basic Dyes by Vegetable Parchment*

By Abel Caille, Director of Institute of Chemistry. Rouen.

In a previous article (*Chimie et Industrie* February 1926) we had occasion to note that parchmentized paper showed a marked affinity for basic dyes, and particularly for methylene blue. Moreover, we showed that there was a direct relationship between the combined sulphuric acid content of the paper and the quantity of dye that it fixed. We also proved that the fixation of basic dyes by nitrocelluloses and by acetocelluloses was due to the presence in the molecule of combined sulphuric acid.

We thought it would be useful to find out whether the structure of the fiber and its degree of swelling have any effect on the fixation of the dyes and we carried out the present investigation on parchment paper in which the swelling of the fiber and the modification in structure is very pronounced.

Procedure

We took ordinary filter paper, which analysis showed to be free from sulphates, and parchmentized it by immersing rectangular strips 10 centimeters long by 4 centimeters wide, to about two-thirds their length for 15 to 20 seconds in 58.5 degrees Baumé sulphuric acid at 15 degrees C. Immediately after taking the strips out of the acid they were washed in water, air-dried, and then ironed out.

There was a very marked difference between the unchanged filter paper and the portion which had been immersed in acid: the latter was translucid, rougher to the touch, and much stronger, and it had undergone considerable shrinkage.

First of all we studied the effect of the time of immersion in the acid. The various samples were washed with water from the city water works of Rouen. This is a hard water which, as we have shown in previous investigations, removes the sulphuric acid impregnating the paper without appreciable hydrolysis of the acid which is combined as a sulphocellulose ester. The total combined sulphuric acid was determined in each sample.

Immersions were carried out for 5, 10, 15 and 20 seconds, and within these limits the strength, shrinkage and combined sulphuric acid content increased with the time of immersion. Analysis showed the following sulphate contents:

Time of immersion	Total H_2SO_4
5 seconds	1.02%
10	1.21
15	1.25
20	1.4

From the results of our previous investigation on sulphocelluloses we decided to prepare three series of samples by the following methods:

(1) Part of the parchmentized strips was given a first rapid washing in distilled water, and was then given a prolonged washing with Rouen city water. In this way the sulphuric acid combined with the cellulose was stabilized so as to prevent its elimination in the course of the subsequent treatments.

(2) Some of the strips were washed in distilled water for 30 minutes so as to eliminate the acid which impregnated the parchmentized paper without appreciably hydrolyzing the combined sulphuric acid.

(3) Part of the strips treated as in (2) and containing "non-stabilized" combined sulphuric acid were placed in a covered beaker contining excess of distilled water, and the beaker was placed in a small autoclave and heated at 100 to 110 degrees C. so as to eliminate the combined sulphuric acid as completely as possible. We never succeeded, however, in eliminating them completely.

(4) Finally, we completed our investigation on a sample of parchment paper obtained from Poulenc Fréres. Analysis of this sample showed it to contain sulphuric acid and also ammonia. The latter was easily detected by boiling a small piece of the parchment in distilled water and adding a drop of Nessler's reagent. It was evident, therefore, that this parchment had been prepared by treating paper with sulphuric acid and washing with a solution of ammonia, probably to stabilize it. This Poulenc parchment was also subjected to the stabilizing treatment, that is, it was heated eigth hours in the autoclave at 100 to 110 degrees C.

We thus had four sets of parchment samples, and on analysis they were found to have the following sulphuric acid contents:

	Total H_2SO_4	Neutralized H_2SO_4
Sample No. 1 washed in distilled water and stabilized 8 hours in the autoclave	0.38%	0.31%
Sample No. 1 washed 30 minutes in distilled water and not stabilized	1.23	
Sample No. 2 washed in distilled water and not stabilized	1.26	
Sample No. 2 washed in distilled water and stabilized 8 hours in the autoclave	0.43	
Sample No. 3 washed in hard water and then stabilized 8 hours in the autoclave	1.72	
Sample No. 4 washed in hard water and not stabilized	1.8	
Original paper	Undeterminable traces	
Poulenc parchment	1.62	
Poulenc parchment after stabilizing 8 hours in the autoclave	0.42	

These various parchment samples were dyed with methylene blue. In order to obtain comparable results the samples were immersed in cylindrical dyeing pots containing 200 cc. of a 2 gram per liter solution of methylene blue and heated for 10 minutes on a water bath at 60 to 70 degrees C. The samples were then rinsed with a large quantity of cold water, washed in five changes of distilled water heated to about 80 degrees C., and finally air dried.

Observations

We noted that during the washing some of the dyed samples bled to a considerable extent in distilled water, gradualy losing the dye which they has seemingly fixed: this happened with the samples that had been washed with distilled water and had been stabilized, that is, that were low in combined sulphuric acid; those samples that were high in combined sulphuric acid, on the other hand, bled only during the first washing.

In order to bring this out more clearly, in between washings we pressed the various samples between two sheets of white filter paper, which we stained in proportion to the extent of the bleeding of the dye. Thus, with the samples which we had parchmentized and about one-third of which were unchanged as we did not immerse the whole strip in sulphuric acid, where no stabilizing treatment had been given the unchanged portion bled very profusely, while the parchmentized end lost but very little dye.

These results show clearly, on the one hand, that the dye is certainly fixed, and, on the other, that it is held rather loosely so that washing should not be unduly prolonged. Our observations are summarized in the following table:

Filter paper used for parchmentizing.	Very light blue	Bleeds profuse'y
Sample No. 1—stabilized	Darker blue	Bleeds profusely
Sample No. 1—not stabilized	Darker blue	Does not bleed
Sample No. 2—stabilized	Fairly dark blue	Bleeds
Sample No. 2—not stabilized	Darker blue	Does not bleed
Sample No. 3	(Equally dark blue)	
Sample No. 4	(for both samples)	Do not bleed
Poulenc parchment as purchased	Very dark blue	Does not bleed
Poulenc parchment—stabilized	Much lighter blue	Bleeds

We wish to draw attention to the fact that all stabilized samples fixed the dye more than the original filter paper, but none of these samples had been completely freed from combined sulphuric acid. On the whole, the results seem to prove that fixation of methylene blue by parchment paper is due practically exclusively to the presence of combined sulphuric acid. We consider that this holds all the more in the case of the sulphocelluloses, the physical structure of which has not been changed by esterification, which we discussed in a preceding article.

* Translated from Chimie et Industrie xvii, 201-202, February, 1927, by A. Papineau-Couture.

United States Patents on Papermaking

May 17 to June 28, 1927

Compiled by Clarence J. West, Chairman, Committee on Abstracts and Bibliography

1,628,931. Process for treating waxed and printed papers. Paul H. Todd, assignor to Renard, Inc., Kalamazoo, Mich. May 17, 1927. (Cl. 92—13.)

1,629,088. Mixer for fourdrinier flow boxes. Alonzo Aldrich, assignor to Beloit Iron Works, Beloit, Wis. May 17, 1927. (Cl. 92—44.)

1,629,087. Shaker mounting for Fourdrinier machines. Alonzo Aldrich, assignor to Beloit Iron Works, Beloit, Wis. May 17, 1927. (Cl. 92—45.)

1,629,352. Sulphur burner. Henry F. Merriam, assignor to General Chemical Company, New York, N. Y. May 17, 1927. (Cl. 23—279.)

1,629,393. Composition for use in making sulphate or kraft pulp and process of making same. Herman B. Kipper, Muskegon, Mich. May 17, 1927. (Cl. 92—9.)

1,629,448. Process of making ligno-tanning material from waste sulphite liquor. Viggo Drewsen, assignor to West Virginia Pulp and Paper Company, New York, N. Y. May 17, 1927. (Cl. 149—4.)

1,629,511. Machine for manufacturing corrugated board. Joseph Kramer and Albert H. Israel, New York, N. Y. May 24, 1927. (Cl. 154—31.)

1,629,522. Means for slitting sheet material. Treadway B. Munroe, assignor to Dahlberg & Co., Inc., Chicago, Ill. May 24, 1927. (Cl. 164—68.)

1,629,607. Fourdrinier machine and process of paper making. George Stanford Witham, Jr., Hudson Falls, N. Y. May 24, 1927. (Cl. 92—44.)

1,629,619. Primary strainer for cellulose, wood pulp, etc. Christian Martin Hansen, assignor to A/S. Thunes Mek. Verksted, Skoyen, Norway. May 24, 1927. (Cl. 92—29.)

1,629,681. Paper-making apparatus. Hervey G. Cram, assignor to Great Northern Paper Company, Millinocket, Me. (Calenders.) May 24, 1927. (Cl. 92—74.)

1,629,743. Paper-crimping machine. Catherine E. Scott, Milwaukee, Wis. May 24, 1927. (Cl. 154—30.)

1,629,812. Apparatus for and method of screening pulp. Jerry W. Stevens, assignor to Northwest Paper Company, Cloquet, Minn. May 24, 1927. (Cl. 92—32.)

1,629,852. Envelope. Howard A. Wolf, assignor to Wolf Brothers, Philadelphia, Pa. May 24, 1927. (Cl. 229—68.)

1,630,027. Suction box. John H. Reedy and Thomas A. Cape, assignors to the Champion Coated Paper Company, Hamilton, O. May 24, 1927. (Cl. 92—51.)

1,630,147. Process for extracting the pure cellulose from the bagasse of sugar cane. Ernest Charles Hemer Valet, Mexico City, Mexico. May 24, 1927. (Cl. 92—9.)

1,630,319. Air-suction crinkling apparatus. Kurt Wandel, assignor to Arkell Safety Bag Company, New York, N. Y. May 31, 1927. (Cl. 92—69.)

1,630,320. Paper-creping apparatus. Kurt Wandel, assignor to Arkell Safety Bag Company, New York, N. Y. May 31, 1927. (Cl. 92—69.)

1,630,331. Multiple cylinder drying machine. Gerald Dod, Southport, England. May 31, 1927. (Cl. 34—48.)

1,630,424. Process for the production of insulating paper containing phenol resins. Carl August Haanen, assignor to Felten und Guilleaume Carlswerk Actien-Gesellschaft, Cologne-Mulheim, Germany. May 31, 1927. (Cl. 92—21.)

1,630,495. Box for paper rolls. Nicholas Marcalus, assignor to Automatic Paper Machinery Company, Plainfield, N. J. May 31, 1927. (Cl. 206—58.)

1,630,635. Method of improving the color of pulp. Francis G. Rawling, Knoxville, Tenn. May 31, 1927. (Cl. 92—21.)

1,631,026. Drying. Frederick Grewin, assignor to American Voith Contact Co., Inc., New York, N. Y. May 31, 1927. (Cl. 34—48.)

1,631,146. Envelope machine. Abraham Novick, assignor to F. L. Smithe Machine Company, Inc., New York, N. Y. June 7, 1927. (Cl. 93—61.)

1,631,171. Utilizing wood waste. Howard F. Weiss, assignor to Wood Conversion Company, Cloquet, Minn. (Wall board.) June 7, 1927. (Cl. 92—20.)

1,631,172. Utilizing wood waste. Howard F. Weiss, assignor to Wood Conversion Company, Cloquet, Minn. (Wall board binder.) June 7, 1927. (Cl. 92—1.)

1,631,173. Wall board and process of making the same. Howard F. Weiss, assignor to Wood Conversion Company, Cloquet, Minn. June 7, 1927. (Cl. 92—20.)

1,631,452. Machine for making paper bags. Daniel Appel, assignor to the Cleveland-Akron Bag Company, Cleveland, O. June 7, 1927. (Cl. 93—14.)

1,631,750. Paper product and method of making same. James McIntosh, assignor to Diamond State Fibre Company, Bridgeport, Pa. June 7, 1927. (Cl. 92—21.)

1,631,757. Washing paper. Charles B. Peck, Suffern, N. Y. June 7, 1927. (Cl. 87—23.)

1,631,762. Method and apparatus for mixing pulp. Waldo E. Rosebush, assignor to Inland Empire Paper Company, Millwood, Wash. June 7, 1927. (Cl. 92—20.)

1,631,789. Manufacture of paper pulp. James Brookes Beveridge, Richmond, Va. June 7, 1927. (Cl. 92—9.)

1,631,826. Apparatus for saturating materials. Lester Kirschbraun, assignor to the Flintkote Company, Boston, Mass. June 7, 1927. (Cl. 91—46.)

1,631,833. Exhaust system for paper machine driers. Waldo E. Rosebush, Millwood, Wash. June 7, 1927. (Cl. 34—48.)

1,632,398. Method of producing tubular articles from pulpous material. Clem H. Franks, assignor to Western Electric Company, Inc., New York, N. Y. June 14, 1927. (Cl. 92—54.)

1,632,467. Process and apparatus for making pulp from fibrous material. Frederick K. Fish, Jr., San Francisco, Cal. June 14, 1927. (Cl. 92—7.)

1,632,669. Envelope and method of making same. Albert E. Naugle, Pitman, N. J. June 14, 1927. (Cl. 229—76.)

1,632,779. Apparatus for cooking pulp. Carlton H. Allen, assignor to Great Northern Paper Company, Millinocket, Me. June 21, 1927. (Cl. 92—7.)

1,632,780. Flow controlling apparatus. Carlton H. Allen, assignor to Great Northern Paper Company, Millinocket, Me. June 21, 1927. (Cl. 137—78.)

1,632,802. Process of and apparatus for treating fiber. (Washing.) George A. Richter, assignor to Brown Company, Berlin, N. H. June 21, 1927. (Cl. 92—20.)

1,632,867. Folding paper cup. Cesare Barbieri, assignor to The Vortex Manufacturing Company, Chicago, Ill. June 21, 1927. (Cl. 229—1.5.)

1,632,868. Paper cup and blank for making the same. Cesare Barbieri, assignor to The Vortex Manufacturing Company, Chicago, Ill. June 21, 1927. (Cl. 229—1.5.)

1,632,869. Paper cup. Cesare Barbieri, assignor to The Vortex Manufacturing Company, Chicago, Ill. June 21, 1927. (Cl. 229—1.5.)

1,632,885. Web-coating device. Charles C. Colbert and George E. Preston, assignors to American Coating Mills, Elkhart, Ind. June 21, 1927. (Cl. 91-17).

1,632,891. Method of preparing satin white. John F. Friedriksson, assignor to The Kalbfleisch Corporation, New York, N. Y. June 21, 1927. (Cl. 134—18.)

1,632,928. Manufacture of paper-pulp bottles and the like. James Shaw, San Francisco, Cal. June 21, 1927. (Cl. 92—54.)

1,633,072. Stencil sheet. Alex Brooking Davis, assignor to A. B. Dick, Chicago, Ill. June 21, 1927. (Cl. 41—38.6.)

1,633,181. Mechanism for working pulpous material. Helgo Wiggo Jespersen, assignor to Western Electric Company, Inc., New York, N. Y. June 21, 1927. (Cl. 92—41)

1,633,189. Paper-making machine. Ernest Poirier, Waterville, Me. June 21, 1927. (Cl. 92—51.)

1,633,229. Paper box and process of making the same. Sam Rosenthal, assignor to The Pony Fruit Corporation, New York, N. Y. June 21, 1927. (Cl. 229—14.)

1,633,347. Process of refining barytes. Wm. J. O'Brien, Baltimore, Md. June 21, 1927. (Cl. 23—122.)

1,633,553. Apparatus for treating pulp. Carlton H. Allen, Millinocket, Me. June 21, 1927. (Cl. 92—7.)

1,633,554. Pulp-cooking apparatus. Carlton H. Allen, Millinocket, Me. June 21, 1927. (Cl. 92—7.)

1,633,576. Protective coating. Clem H. Franks, assignor to Western Electric Company, New York, N. Y. June 28, 1927. (Cl. 175—21.)

1,633,577. Electrical coil. Clem H. Franks, assignor to Western Electric Company, New York, N. Y. June 28, 1927. (Cl. 175—359.)

1,633,594. Retted bagasse fiber and process of producing same. Elbert C. Lathrop and Treadway B. Munroe, assignor to Dahlberg and Co., Inc., Chicago, Ill. June 28, 1927. (Cl. 92—5.)

1,633,595. Device for making rolls of paper. Harry Liebeck, assignor to Scott Paper Company. June 28, 1927. (Cl. 242—65.)

1,633,696. Stencil sheet. Alex Brooking Davis, assignor to A. B. Dick Company, Chicago, Ill. June 28, 1927. (Cl. 41—38.6.)

1,633,730. Apparatus and process for making paper pulp. Frederick K. Fish, Jr., San Francisco, Cal. June 28, 1927. (Cl. 92—13.)

1,633,731. Process for treating plant material. Frederick K. Fish, Jr., San Francisco, Cal. June 28, 1927. (Cl. 92—13.)

1,633,732. Process and apparatus for making pulp from fibrous material. Frederick K. Fish, Jr., San Francisco, Cal. June 28, 1927. (Cl. 92—7.)

1,633,733. Process and apparatus for manufacturing ground-wood pulp. Frederick K. Fish, Jr., San Francisco, Cal. June 28, 1927. (Cl. 92—6.)

1,633,734. Process and apparatus for digesting or cooking fibrous material. Frederick K. Fish, Jr., San Francisco, Cal. June 28, 1927. (Cl. 92—7.)

1,633,735. Process and apparatus for making pulp from fibrous material. Frederick K. Fish, Jr., San Francisco, Cal. June 28, 1927. (Cl. 92—7.)

1,633,736. Process of preparing paper pulp. Frederick K. Fish, Jr., San Francisco, Cal. June 28, 1927. (Cl. 92—9.)

1,633,737. Liquor for treating plant material and process of producing the same. Frederick K. Fish, Jr., San Francisco, Cal. June 28, 1927. (Cl. 92—11.)

1,633,738. Pulp fiber. Frederick K. Fish, Jr., San Francisco, Cal. June 28, 1927. (Cl. 92—3.)

1,633,787. Oil and grease proof paper and container made therefrom. Otto Kress, assignor to American Lakes Paper Company, Chicago, Ill. June 28, 1927. (Cl. 154—40.)

1,633,817. Method of and apparatus for controlling the moisture content of paper. Frank E. P. Klages, assignor to The Powers Regulator Company, Chicago, Ill. June 28, 1927. (Cl. 34—48.)

1,633,884. Paper can. Raymond A. Bennett and Albion M. Boothby, assignors to Boothby Fibre Can Company, Boston, Mass. June 28, 1927. (Cl. 229—5.5.)

1,633,960. Paper-making device. Stephen A. Staege, assignor to Westinghouse Electric and Manufacturing Company. June 28, 1927. (Cl. 34—48.)

1,634,079. Process of manufacturing wall boards composed of rice hulls and plaster. Tsunegoro Nishi, Tokyo-Fu, Japan. June 28, 1927. (Cl. 18—47.5.)

1,634,080. Envelope machine. Albert Olgavm assignor to Gaw-O'Hara Envelope Company, Chicago, Ill. June 28, 1927. (Cl. 93—61.)

1,634,092. Sulphur burner. Henry Blumenberg, assignor to Stockholders Syndicate, Los Angeles, Cal. June 28, 1927. (Cl. 23—278.)

1,634,128. Apparatus for molding articles from pulp. Bert R. Williamson, assignor to Keyes Fibre Company, Waterville, Me. June 28, 1927. (Cl. 92—56.)

1,634,143. Means for boiling fibrous materials. Nils Knut Fredrik Hanson, Stockholm, Sweden. June 28, 1927. (Cl. 92—7.)

1,634,159. Attachment for paper machines. Jefferson Schell and Orian Thomas Patterson, Ottawa, Canada. June 28, 1927. (Cl. 34—48.)

Section of the

COST ASSOCIATION OF THE PAPER INDUSTRY

Affiliated with

THE AMERICAN PAPER AND PULP ASSOCIATION

Conducted by THOS. J. BURKE, C.A., Sec-Treas

"A Simple and Effective System to Show Sources of Income and Commitments"*

By Arthur Woodworth Davis, Controller, The American Products Co.

Contrary to popular belief, most manufacturing enterprises get into financial difficulties through their inability to balance their budgets rather than through their inability to earn profits. This is a broad statement, perhaps, but it is true that the proper management of income has a far greater bearing upon the continued success of a business than has its ability to earn abnormal profits. This statement can be appreciated when we look back a few years, and see the enormous losses sustained by business enterprises through excess investments of profits and capital in plants, equipment and inventories.

In all business enterprises we find some individual upon whom falls the responsibility of financial control. His major duties are to provide funds for all commitments of the business when they become due and payable. To do this intelligently, it is absolutely necessary that he have the most complete and detailed information concerning the various sources from which his income is derived, the amount of income to be reasonably expected from such sources, and the approximate date upon which this income will become available. In order to meet the needs of the business, it is also essential that he know in detail what its present commitments are, the probable future commitments, and when they are expected to mature.

In this article I have outlined a simple and effective system for recording sources of income and analysis of commitments, which is sufficiently flexible to permit of contraction or expansion to meet the needs of individual cases. Six simple forms are used—daily statement of income (Fig. 1); treasurer's copy (Fig. 2); gross daily commitment report (Fig. 3); detail daily miscellaneous commitments (Fig. 4); accounts payable due sheet (Fig. 5); and net commitments due. Each of these forms will be explained fully in turn in the following discussion:

The first of the six forms used, daily statement of income (Fig. 1), provides columns for the various classes or sources of funds. Each calendar month is provided with two horizontal lines for the insertion of data. On the upper line B are inserted the budget figures. On the lower Line A are inserted daily the actual figures, as the data become available. (Although the form provides spaces for each of the twelve months, the budget figures need be inserted only for such length of time in advance as custom in any particular case has shown to be practicable and necessary.) The methods of ascertaining the budget figures for these items are peculiar to each business. If there has not been perfected a scientific method of arriving at the figures, past experience will serve as a useful guide to begin with.

In their respective vertical columns, opposite each month and on the B line, are placed the anticipated receipts from cash sales and collections on accounts and notes receivable; the interest and dividends received from investments, notes receivable, bank deposits, etc.; cash discount (which, while not exactly a source of income, does reduce the total amount to be paid when the commitments fall due, and for this reason is included on the form); investments maturing, or stocks and bonds whose principals fall due on a given date; properly sold, which includes the anticipated cash receipts from the sale of all classes of assets not otherwise provided for; and under bank and similar loans, the anticipated receipts from such sources. The "sundry" column provides for income not otherwise classified. This, and the accompanying forms, are made out daily, the budget figures remaining the same, but the actual figures changng in accordance with the actual income received to date.

DAILY STATEMENT OF INCOME — Date 1/31/27

		Income						
Month		Sales and Collections	Interest and Dividends	Cash Discount	Investments Maturing	Property Sold	Bank Loans	Sundry
January	B	1,000,000	10,000	5,000	10,000	....	50,000	....
	A	990,000	10,650	4,780	10,000	....	50,000	....
February	B	900,000	7,500	6,000	5,000	1,000	.....	1,000
	A							
March	B	1,100,000	15,000	6,000	15,000	....	10,000	....
	A							
April	B	1,200,000	10,000	5,000	30,000	5,000	40,000	1,000
	A							
May	B	900,000	5,000	7,000	.....	....	.....	....
	A							
June	B							
	A							
July	B							
	A							
August	B							
	A							
Total	B	1,000.000	10,000	5,000	10,000	....	50,000	....
	A	990,000	10,650	4,780	10,000	....	50,000	....

FIG. 1—DAILY STATEMENT OF INCOME

Treasurer's Copy of Purchase Orders

Fig. 2, treasurer's copy, is nothing more than a copy of each purchase order issued, made at the time the purchase order is made, and sent to the treasurer's office, showing the amount of the commitment and the approximate date it is to be paid. There are some ex-

* From Manufacturing Industries.

ceptions to this routine in cases where purchase orders are not issued—usually on such items as sinking fund investments, interest on bonded debts, dividends, corporate taxes of all kinds, etc. In order that there may be a complete tie-up of all commitments, the treasurer's office will have a purchase order made out covering each of these items; the original copy is then destroyed, and on the treasurer's copy the amount in question (or the estimated amount, where the actual figures are not known) is indicated. From these treasurer's copies the financial manager derives his information concerning the total authorized commitments of the company, and whether or not they are to be paid.

TREASURER'S COPY

No. 16,789

THE HOLDEN CORPORATION
Cincinnati

The Barton Mfg. Co.,
10 G Street,
Washington, Mo.

F. O. B. Cinti.
Terms 2/10/N/30
Ship by Big 4
ROUTE

Quantity	Our No.	Your No.	Description	Price	Per	Amount
10,000	1-1670	270	Long Nose Pliers	.10	ea.	$1,000.00

Account No. 1650
Department 34
Division Selling

Total amount $1,000.00
To arrive—Date 1/15/27
Posted by A.M.

FIG. 2—TREASURER'S COPY OF PURCHASE ORDER

Gross Daily Commitments Report

At the end of each day, the commitments are segregated according to the column headings on the gross daily commitments report (Fig. 3), and their respective totals entered thereon, and also upon the net commitments due report, an explanation of which follows later. The gross daily commitments report is drawn upon the same principle as Fig. 1, spaces being provided for budget figures and actual figures. This sheet is supplemented by a subsidiary form called "detail of daily miscellaneous commitments" (Fig. 4).

(This last form can be eliminated if one cares to extend the size of Fig. 3). After these entries have been made, the gross daily commitment report provides a detailed picture of all commitments made by the company for the current and subsequent months. The value of this form to the financial manager is that when the actual figures of any given month exceed the budget figures previously inserted, future commitments can be stopped for the month, or if they must be continued, prior commitments can be canceled or greatly reduced.

In connection with Fig. 3, the following explanation is in order.

Use of Material Purchase Budget

The budget figures for material purchases are the estimated purchases of raw material used in manufacturing the product. Under Material Expenses is inserted the budget figure for expenses of purchasing, storing and handling of raw materials. Under Manufacturing Expenses are those expenses estimated as necessary to the production of the manufactured product. Administrative Expenses are those estimated as necessary in the administration of the business. Selling Expenses include all expenses necessary to selling, handling, storing, packing and shipping the finished product, except advertising expense. Advertising expense is segregated and placed under Miscellaneous Expense, for the reason that a great many institutions do most of their advertising in two or three months of the year, setting up the total spent as a deferred asset, and prorating it over the entire twelve months. Under Branches are placed the necessary expenses for operating branch sales offices, warehouses or assembling plants.

Miscellaneous Expenses

Under Miscellaneous Expenses are placed the total miscellaneous commitments shown in detail on the form included here under that name (Fig. 4). The headings on this form are self-explanatory. Some question may be raised here as to why these miscellaneous commitments are segregated. The reason is that the commitments are made in total and are so paid, and are later distributed by means of journal vouchers to the various departments of the several divisions of the business. Being set aside as individual items, they may be more easily identified and controlled.

After the treasurer's copies of the purchase orders have been totaled, they are filed alphabetically in a file called "unpaid commitments." When the invoices arrive for these commitments, the treasurer's copies covering them are taken from their file and attached thereto. In order that the financial manager may know the net commitments for which invoices have not arrived, a duplicate of Figs. 3 and 4 is used. The columns and headings are the same, except that the name is changed to "net daily commitments report," instead of "gross, etc." After the invoices have been attached to the treasurer's copies, they are totaled as to due dates shown on the treasurer's copies, and deducted from the total commitments shown on the net daily commitments report. The net daily commitments report does not need a horizontal line for budget figures, this being the only difference in the two forms. In some cases, it may not seem to be absolutely necessary to use these net commitments reports, but when business slacks and receipts fall off, retrenchment is necessary, and this information serves the financial manager in showing how many of the commitments made during the month remain unpaid.

GROSS DAILY COMMITMENT REPORT
Date 1/31/1927

Month		Commitments	Expenses					
		Material Purchases	Material	Manufacturing	Administrative	Selling	Branches	Miscellaneous
January	B	350,000	18,000	20,000	50,000	75,000	10,000	60,000
	A	360,000	20,000	19,000	55,000	65,000	9,000	55,000
February	B	375,000	18,000	20,000	50,000	70,000	10,000	70,000
	A	70,000	2,000	4,000	5,000	16,000	1,000	3,000
March	B	400,000	20,000	22,000	50,000	65,000	10,000	100,000
	A	40,000	3,000	2,000	10,000	20,000	2,000	21,000
April	B	380,000	19,000	21,000	50,000	90,000	10,000	75,000
	A	30,000	1,000	900	2,000	10,000	.....	10,000
May	B	350,000	18,000	20,000	50,000	70,000	10,000	73,000
	A	25,000	.....	.....	.....	11,000	.....	10,000
June	B	360,000	18,000	19,000	50,000	65,000	10,000	82,000
	A	20,000	.....	.....	.....	.....	.....	35,000
July	B	320,000	16,000	17,000	50,000	75,000	10,000	72,000
	A	10,000	.....	.....	.....	.....	.....	19,000
August	B	370,000	19,000	20,000	50,000	75,000	10,000	55,000
	A	15,000	.....	.....	.....	.....	.....	10,000
Total	B	2,905,000	146,000	159,000	400,000	585,000	80,000	582,000
	A	570,000	26,000	25,900	72,000	122,000	12,000	163,000

FIG. 3—GROSS DAILY COMMITMENTS REPORT

DETAIL OF DAILY MISCELLANEOUS COMMITMENTS
Date 1/31/1927

Month		Commitments								
		Payroll	Dividends	Interest	Income Tax	Real and Personal Taxes	Property and Equipment	Investments	Advertising	Sundry
Jan.	B	30,000	10,000	....	.....	....	....	....	20,000	....
	A	28,000	10,000	....	.....	....	2,000	....	20,000	....
Feb.	B	36,000	.....	3,000	.....	....	1,000	....	30,000	....
	A	.....	.....	3,000	.....	....	....	....	.....	....
March	B	43,000	.....	....	16,000	....	1,000	5,000	35,000	....
	A	.....	.....	.....	16,000	....	....	5,000	.....	....
April	B	35,000	10,000	....	.....	....	....	....	30,000	....
	A	.....	10,000	....	.....	....	....	....	30,000	....
May	B	30,000	.....	3,000	.....	....	....	....	40,000	....
	A	.....	.....	3,000	.....	....	....	....	7,000	....
June	B	33,000	.....	....	16,000	8,000	5,000	....	20,000	....
	A	.....	.....	....	16,000	8,000	1,000	....	1,000	....
July	B	30,000	10,000	....	.....	....	2,000	20,000	10,000	....
	A	.....	10,000	....	.....	....	....	....	9,000	....
August	B	29,000	.....	3,000	.....	....	3,000	10,000	10,000	....
	A	.....	.....	3,000	.....	....	....	....	7,000	....
Sept.	B	28,000	.....	....	16,000	....	3,000	10,000	25,000	....
	A	.....	.....	....	16,000	....	....	....	.....	....
Total	B	294,000	30,000	9,000	48,000	8,000	15,000	45,000	220,000	....
	A	28,000	30,000	9,000	48,000	8,000	3,000	5,000	44,000	....

FIG 4

DETAIL RECORD OF DAILY MISCELLANEOUS COMMITMENTS

The invoices are then entered on an accounts payable due sheet (Fig. 5), the totals being entered in the vertical columns under the date when payment is to be made, as shown on the invoice, and

on the horizontal line following, the date upon whic the entries are made.

In our case only thousands of dollars are entered on these columns. This may be reduced to hundreds of dollars if so desired; or if fractions of thousands are desired, they may be entered by making the fraction in a smaller numeral underscored, as illustrated on the form. The total is then entered in the column provided for that purpose. All of these entries are made in pencil, because they change daily as new invoices are added and those already added are paid.

It may be necessary to use four or five of these sheets simultaneously, as bills arriving in December, say, may not be due until January or February. In such a case, the totals of these bills which arrive in December and are due in January are entered on the first horizontal line, called "Prior," and are extended in the vertical columns under the date they are to be paid. Then as January bills arrive on the first day of the month, they are entered on the horizontal line provided for that day and are added to the prior totals.

ACCOUNTS PAYABLE DUE SHEET

Date 1/31/27

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	23	24	25	26	27	28	29	30	31	Total to Date
Prior	5	..	7	4	6	..	10	..	..	..	8	1	3	4	..	6	1	1	7	2	..	..	4	..	5	74,000
1			4	7	2	1	9	2	..	6	..	..	..	5	4	2	3	7	5	1	2	1	..	7	2	70,000
2				7	2	1	11	4	7	..	6	6	..	2	1	1	8	5	1	2	..	7	8	6	4	89,000
3					2	6	12	5	8	..	6	6	..	2	1	1	9	6	4	3	2	8	8	7	5	101,000
4						6	13	6	8	2	6	6	..	4	2	2	10	7	5	4	2	8	8	7	5	113,000
5							13	7	9	3	6	6	2	4	2	2	10	8	5	4	2	8	8	7	5	101,000
6								8	10	4	6	6	3	4	2	2	11	9	6	3	1	10	10	5	6	106,200
7									11	4	9	6	..	..	5	3	12	10	5	5	3	9	9	2	7	100,000
8										7	10	7	4	3	1	1	10	8	1	2	1	11	13	7	1	87,000
9																										
10																										
11																										
12																										
13																										
14																										
15																										
16																										
17																										
30																										
31																									10	10,000

FIG. 5 ACCOUNTS PAYABLE DUE SHEET

Keeping Accounts Payable Due Sheet Up to Date

When these items are entered, duplicate vouchers are also made for the invoices. The original voucher is filed alphabetically and the duplicate is filed according to due date. Each day, as these vouchers become due, they are pulled from their file and deducted from the accounts payable due sheet. If all of them are paid, the entire figure is erased and that amount deducted from the total column. In some instances it may be decided to set the bills ahead a few days. In this case, the total is deducted from the original due date and added to the total due on the date decided upon for the payment of the bill.

It can be seen from the foregoing that the net daily commitments report shows the amount of commitments for which invoices have not been received, and the accounts payable due report shows the amount of commitments for which invoices have been received. When these two totals are added, the financial manager knows the exact amount of money that he has to provide in a given month to meet the commitments of the company. By referring to the daily statements of income, he has before him a statement of the amount of money expected in a given month from the various sources. The difference between these two totals tells him at once whether or not additional sources of income not already provided will have to be resorted to in order to balance the financial budget.

Financial executives who have experienced the worry attendant upon making important decisions, relative to financial operations, which must be based upon guesswork, appreciate the inestimable value of the co-ordinated facts which the described system provides. Financial operations which are based upon a carefully thought out plan release executive energy for offensive work. In performing this creative function of co-ordination if no other, the budget mechanism justifies its existence in every particular.

In actual practice this simple system of control which requires for its operation a surprisingly small amount of labor per day, has worked wonders in stabilizing the financial position of the businesses in which it has been used. In business today, the task o fproviding cash for all the liabilities of a company, maintaining a high credit standing, earning a fair return on working capital through the medium of cash discounts, and providing for contingencies of every kind, is no small one. If for no other reasons than these, every business, whether it be an individual, a partnership, a corporation or a government, should have some mechanism for balancing its budget.

Trend Away From Contract Operations

The Woodlands Section of the American Paper and Pulp Association has just mailed to its members replies to an inquiry as to the relative advantages of "Company versus Contract Operations" which indicate that the present trend is toward more company operating and less contract operating than in the past.

The inquiry originated through one of the Woodlands Section members in the Northeast and was sent to the Northeastern members only. Eight replies were received, only one of which gave unqualified endorsement of contract operations. Other replies discussed the desirability of contract operations under favorable conditions but emphasized the difficulty of securing reliable contractors at the present time and the fact that the common practice in the Northeast of employing piece workers in company camps gave excellent results.

It was generally agreed that under proper conditions, contractors would produce cheaper wood than the company camp but have a tendency to turn out poorly prepared wood and to cut unsystematically. Another disadvantage of the contractor which was commented on was his tendency to throw back the contract when adverse conditions develop, leaving the company to finish the job and take the loss.

There seems to be a general desire on the part of those replying to use contractors wherever possible, but with one exception unfavorable experience in the past has made the companies very cautious about letting contracts. Profit-sharing arrangements in which the contractor and the company share the difference between a fixed price for the wood and actual delivered cost were considered the most satisfactory arrangement by one company replying.

Install Fletcher Bleaching System

[FROM OUR REGULAR CORRESPONDENT]

RHINELANDER, Wis., July 18, 1927.—The Rhinelander Paper Company has just installed the Fletcher high density bleaching system with a view to improving its product and taking care of the increased demand for its bleached sulphite. A very elaborate array of cement storage tanks has been built.

COST SECTION

Sound Accounting Brings Leadership to American Business

"Be sure you are right, then go ahead," may well be regarded as the slogan of American business.

The Accountant-Technicians who make it possible for business executives to know they are right are about to gather in annual conclave to take stock of their affairs, to note progress, and to plan for the future.

This month will see cost accountants, controllers, credit men, and the accounting executives of public utilities comparing notes of the year's accomplishments and closing their books, so to speak, for the season.

These gatherings have a greater import, a more widespread influence on the economic life of the nation than can well be conceived. It is difficult to measure the results of the work done by these thousands of technicians.

That results are obtained, and that the effects of these activities are an important factor in the success of the nation's industries and commerce, is recognized by those who concede the leadership of America in affairs of business.

The Great Private-Practice wing of accountancy represented by the National Association of Cost Accountants has taken its place in the forefront of the groups that contribute to the nation's prosperity. The annual get-together of these men is one of the outstanding events of the current year.

Likewise, the convention of the credit men and the public-utility accountants mark milestones in the nation's progress—milestones that each year take on added significance and importance.—THE EDITOR.

Not a wheel, literally or metaphorically, would turn in modern industry or commerce were it not for the fact-finding and credit-giving parts of the business mechanism. Big business would be Big Chaos without specific facts as to costs of products, service, and marketing, and without the support of credit and the confidence and organization that accompany credit. The wheel-barrow and sampan of China, under these unthinkable conditions, would supplant the locomotive and the Leviathan of this progressive country.

The fundamental advantage that this nation possesses over all competitors in the contest for commercial leadership is found in the superior knowledge of costs possessed by its citizens, in their understanding of the processes of fact-finding, in the superior development of intelligence departments. The majority of business men in continental Europe and even in England, have little conception of the meaning of the term "overhead." Cost means to them the direct and obvious items of labor and material—not the burden of unused space, of limited volume, and of multiplicity of styles. Here, in America, overhead rides as a measurable and controllable burden—an item to be brought under control for the reduction of consumer's price.

Leadership in Fact Finding

This leadership in fact-finding is due to a phenomenon seen nowhere else in the world—the phenomenon of a nation continuously engaged in acquiring a knowledge of accounting and related subjects. A million people at least in this country have become accountancy-educated by the study of accounting and related subjects; and these people not only know the elements of cost, but they know specifically how to obtain cost facts and to relate them, through budgets and otherwise, to current production and distribution.

But fact-finding is only a part of the national curriculum. The subject of credits receives concurrent study and thought. Its principles and practice are taught as a commonplace in all schools of business administration. Thirty thousand and more credit men, all experienced judges of credit risks, are joined together in a single association for the interchange of credit facts and for the development of credit procedures—an unprecedented power for the advancement of sound business and prosperity.

Profit by General Experience

Great and representative meetings of various associations, the members of which are thus intimately related to American industrial and commercial progress, are held annually. In response to the advanced thought of the times, men with common training and interests are moved to group action in order that general experience and observation may be brought to the support of the work of the individual; that practices may be simplified and brought to a standard basis; and, finally, that acquaintanceship may be fostered, to the end that personal interests and friendships may humanize a business structure that might otherwise become mechanistic and destructive of human aspirations and ideals.

In this foreword to a series of articles descriptive of the work done in annual convention by the National Association of Credit Men, the National Association of Cost Accountants, and the National Electric Light Association, it is in order to state briefly the scope of each and the relation that it bears to the business structure.

There come together in the local credit association of the country, united in a national body as the National Association of Credit Men, the representatives of thirty thousand and more banks and business organizations. Each of these men is an expert in judging the ability and the intent of individuals who seek credit—who ask permission to take over money, or money's worth in the shape of goods, upon the promise of later returns or settlements—to make good on their promises. Upon the credit man's ability to judge the status and prospects of a business on the basis of balance sheets, income statements, and budgets that are submitted with applications for credit, and upon his sagacity in judging the moral and personal aspects of credit-seekers rest the solvency and success of the firm he represents. And upon the aggregate judgment of credit men rest the solvency and success of American business and of the American people as a whole.

Hold the Throttle of Business

These technical people who come from every commercial community and sub-community in the entire country, hold the very throttle of American business. Attuned at once to the minutest inspection of individual credit applications and to the correct interpretation of general trends and fundamental causes, these credit officials occupy a position that requires the development of group strength in local conference and national convention.

The cost accountants of the country, including the controllers and other related accounting officials, constitute the intelligence department of modern business. Their work is to analyze and sub-analyze all of the costs that go into production, service, distribution, and into all the things which are sold and distributed in the ramifications of a vast commerce.

Every principle of classification known to science, and some specialized form of every labor-saving invention, are utilized by these men in analyzing conditions and in collating facts to be used as the basis for the great drives of commerce and industry

* From The American Accountant.

Is an organization to seek the business of supplying electric devices for a new and developing continent such as South America or Africa? It must know the cost of every product laid down at its point of use. Is an automobile industry to spend millions in the design and development of a new car? It must have not only a knowledge of costs, but the most reliable facts obtainable as to the market available and the relation of other cars to that market.

These cost accountants, meticulous fact-finders, representing generally the great private-practice wing of accountancy, gather locally in chapters under the general guidance of the National Association of Cost Accountants, all of this work heading up in the National Association convention.

In this convention some of the most important problems in costing are discussed. The results of this conference will reach back and affect for the better firms and corporations engaged in every line of business activity.

Great Development of Utilities

During the last decade there has been a great development in the utilities—that is, in private-profit organizations that take on some of the attributes of government in the distribution, under franchise, of electric light, power, and related products. Utilities as a rule are closely regulated by government, and costs and results of operation must be known with exactitude as a basis for establishing rates and other charges. Great problems of accounting classification, depreciation, and the like, vitally affecting the public's interest, have risen in this industry and have resulted in the development of the specialist in utility accounting and management. These accountants and executives come together in a national organization known as the National Electric Light Association, Accounting National Section, and, in common with the national organizations before described.

Protect Welfare of Country

Here we have group action of great bodies of men who must know balance sheets, and income and profit and loss statements, and budgets, and who must delve into the costs and other technical secrets of production and distribution. The magnitude of their work, and of the work of their fellows in other lines of endeavor, is just beginning to impress itself upon the imagination of the people of this country. Upon their clear-headed judgment of business risks and opportunities, and upon their skill in determining facts with respect to the costs of production and distribution and the availability and extent of markets, depends the welfare of this commercial country.

With fifty per cent or more of our people living in cities and towns, and with the rapid trend away from agriculture and toward industry and commerce, the need for the development of specialists in credits, accounts, finance, and related subjects becomes increasingly important. It will pay any one who wishes to keep his finger upon the pulse of business, and who desires to appraise accurately the trends of business and the individual opportunities that it affords, to follow the work of these conventions, to become familiar with the papers presented and the discussions that result, and to contribute to the strength of these organizations that are working in behalf of more intelligent and more profitable business.

Receiver for Collar City Paper Co.

COHOES, N. Y., July 11, 1927.—Federal Judge Frank Cooper of the United States District Court for Northern New York has named Sylvester R. Benson, a local attorney, receiver for the Collar City Paper and Board Manufacturing Company. Attorney Walter H. Wertime, of this city, acting for creditors, recently filed as noted, an involuntary petition in bankruptcy against the firm which operates a plant on the East Side. The company is said to be well supplied with orders and it is understood that the business will be continued with the present officials of the plant acting in cooperation with the receiver, Mr. Benson.

Paperboard Industries Association To Meet

The next meeting of the Paperboard Industries Association will be held at the Westchester Biltmore Country Club, Rye, N. Y., on Wednesday, July 20, and Thursday, July 21. Rye, is on the New York, New Haven & Hartford Railroad, 24 miles from the Grand Central Station, New York City, and about fifty minutes' ride, with frequent train service. The Westchester Biltmore is a very convenient location for all of the membership. Those who wish can remain in New York and take a train out and many members in the East may go by automobile to the meetings. It is a very delightful spot at this time of the year—good golf courses, good bathing, etc.

On Wednesday, July 20, there will be a meeting of the Paperboard Group in the morning and of the Folding Box Group in the afternoon.

The Container Group meeting will be held on Thursday morning, July 21; the General Meeting of the three Groups in Joint Session convening at 1:30 P. M. Thursday afternoon.

The schedule of meetings is as follows:

WEDNESDAY, JULY 20, 1927

9:30 A.M.-12:00 Noon—Meeting of the Paperboard Group (Vice-President W. J. Alford Jr., presiding).

1:30 P.M.-4:00 P. M.—Meeting of the Folding Box Group (Vice-President H. S. Hinkle presiding)

THURSDAY, JULY 21, 1927:

9:30 A.M.-12:00—Meeting of Container Group (Vice-President Irving Hill presiding)

1:30 P.M.-4:00 P.M.—Meeting of the 3 Groups in Joint Session. (President J. P. Brunt presiding)

COMMITTEE MEETINGS—TUESDAY, JULY 19.

Notices will be sent out calling meetings of Standing Committees and Executive Committee, as follows: Eastern Daylight Saving Time.

MEETINGS OF STANDING COMMITTEES 1:00 P.M. TUESDAY, JULY 19.

MEETING OF EXECUTIVE COMMITTEEE 2:00 P.M. TUESDAY, JULY 19.

$800,000 Paper Plant Okehed

SEATTLE, Wash., July 15, 1927.—Construction of the proposed $800,000 kraft paper mill at Port Townsend will be started within ten days, according to telegraphic information received in that city this week from the Zellerbach corporation offices in San Francisco. Settlement of title, now in escrow, to the property on which the mill is to be built is expected soon.

The company's chief engineer, it is said, has been instructed to open operations by setting piling for the first 150-ton unit of the mill as soon as title is obtained. Completion of the plant is hoped for by May 1, 1928, construction being rushed from the start. A force of 300 men is to be employed, according to the Zellerbach plans, gradually increasing to 600. The completed first unit will employ nearly 400 men, it is said.

The county is to build a road leading directly to the plant.

From what is to be considered fairly reliable information, the Zellerbach Paper Company plans upon working up pulp wood from their holdings in Alaska, recently bid in at a timber sale, in the manufacture of kraft paper products in the new Port Townsend mill, to be erected for that purpose.

Wheelwright Issues Artistic Sample Book

The printing qualities of Wheelwright's Best Plate Finish are comprehensively described in the beautifully printed sample book just issued by the George W. Wheelwright Paper Company, of Leominster, Mass. The attractive booklet is profusely illustrated and demonstrates the suitability of the Best Plate Finish for inting line cuts, Ben Day plates, and half tones.

This enterprising paper house is now in the forty-seventh year printing line cuts, Ben Day plates, and half tones.
of its existence, during which Best Plate Finish has been made ing quality has been consistently upheld during the history of the organization.

Imports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING JULY 16, 1927

SUMMARY

Cigarette paper .....161 cs.
Wall paper .....19 bls., 9 cs.
Paper hangings .....58 bls., 9 cs.
News print .....6,927 rolls
Printing paper .....117 rolls, 60 bls., 184 cs.
Wrapping paper .....174 rolls, 46 cs.
Packing paper .....23 cs.
Marble paper .....9 cs.
Pergamyn paper .....12 cs.
Decalcomania paper .....77 cs.
Drawing paper .....18 cs.
Filter paper .....38 cs.
Stencil paper .....37 cs.
Cover paper .....4 cs.
Copy paper .....9 cs.
Surface coated paper .....160 cs.
Basic paper .....114 cs.
Writing paper .....6 cs.
Gold coated paper .....4 cs.
Baryta coated paper .....51 cs.
Card board .....15 crates, 1 cs.
Straw pulp board .....496 rolls
Straw board .....303 rolls
Miscellaneous paper .....17 bls., 204 cs.

CIGARETTE PAPER

Zorro Tobacco Co., Providence, Lisbon, 30 cs.
Standard Products Corp., Rochambeau, Havre, 74 cs.
The Surbrug Co., Rochambeau, Havre, 20 cs.
P. J. Schweitzer, Pres. Harrison, Marseilles, 37 cs.

WALL PAPER

F. J. Emmerich, Caronia, London, 2 bls.
F. J. Emmerich, Deutschland, Hamburg, 11 bls.
W. H. S. Lloyd & Co., Scythia, Liverpool, 2 bls.
R. F. Downing & Co., Minnetonka, London, 3 bls.
Meadows, Wye & Co., Minnetonka, London, 9 cs.
A. C. Dodman, Jr., Inc., Berengaria, Southampton, 1 ble.

PAPER HANGINGS

A. C. Dodman, Jr., Inc., Scythia, Liverpool, 1 ble.
A. C. Dodman, Jr., Inc., Celtic, Liverpool, 22 bls., 11 cs.
W. H. S. Lloyd & Co., Minnetonka, London, 7 cs., 35 bls.
Whiting & Patterson Co., Inc., Majestic, Southampton, 2 cs.

NEWS PRINT

N. Y. Sun, Mathilda, Botwood, 5,921 rolls.
Tidewater Papermills Sales Corp., Mathilda, Botwood, 30 rolls.
Parsons & Whittemore, Inc., Muenchen, Bremen, 976 rolls.

PRINTING PAPER

Perry, Ryer & Co., Caledonia, Glasgow, 71 cs.
Keuffel & Esser Co., Deutschland, Hamburg, 55 rolls.
E. Dietzgen & Co., Deutschland, Hamburg, 27 cs.
C. B. Richard & Co., Deutschland, Hamburg, 60 bls.
F. Henjes, Jr., Deutschland, Hamburg, 62 rolls.
P. C. Zuhlke, Arabic, Antwerp, 71 cs.
Oxford University Press, Celtic, Liverpool, 5 cs.

WRAPPING PAPER

Birn & Wachenheim, Arabic, Antwerp, 30 cs.
R. Wilson Paper Corp., Sac City, Antwerp, 174 rolls.
E. Dietzgen & Co., Veendam, Rotterdam, 16 cs.

PACKING PAPER

Haule Wax Paper Manfg. Co., Deutschland, Hamburg, 14 cs.
Hensel, Bruckman & Lorbacher, Veendam, Rotterdam, 9 cs.

MARBLE PAPER

L. de Jonge & Co., Arabic, Antwerp, 9 cs.

PERGAMYN PAPER

E. V. Hadley, Deutschland, Hamburg, 12 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., Celtic, Liverpool, 25 cs. (duplex).
B. F. Drakenfeld & Co., Celtic, Liverpool, 14 cs. (simplex).
L. A. Consmiller, Pres. Harding, Bremen, 12 cs.
C. W. Sellers, Pres. Harding, Bremen, 4 cs.
C. W. Sellers, Muenchen, Bremen, 22 cs.

DRAWING PAPER

H. Reeve Angel & Co., Inc., Caronia, London, 4 cs.
Keuffel & Esser Co., Deutschland, Hamburg, 10 cs.
R. F. Downing & Co., Paris, Havre, 4 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., Caronia, London, 21 cs.
D. C. Andrews & Co., Caronia, London, 2 cs.
C. Schleicher Schull, Deutschland, Hamburg, 13 cs.
Taiyo Trading Co., Tsuyama Maru, Nagoya, 2 cs.

STENCIL PAPER

Arlac Dry Stencil Co., Deutschland, Hamburg, 36 cs.
G. W. Sheldon & Co., Berengaria, Southampton, 1 cs.

COVER PAPER

International Forwarding Co., Deutschland, Hamburg, 4 cs.

COPY PAPER

F. C. Strype, Tsuyama Maru, Yokohama, 9 cs.

PHOTO PAPER

T. F. Wilmot, Caronia, London, 1 cs.

SURFACE COATED PAPER

Hensel, Bruckman & Lorbacher, Deutschland, Hamburg, 6 cs.
Whiting & Patterson Co., Inc., Deutschland, Hamburg, 1 cs.
P. C. Zuhlke, Arabic, Antwerp, 80 cs.
P. C. Zuhlke, Veendam, Rotterdam, 73 cs.

BASIC PAPER

American Express Co., Arabic, Antwerp, 114 cs.

WRITING PAPER

B. Altman & Co., Majestic, Southampton, 3 cs.
Japan Paper Co., Paris, Havre, 3 cs.

GOLD COATED PAPER

F. Murray Hill, Pres. Harding, Bremen, 4 cs.

BARYTA COATED PAPER

Globe Shipping Co., Pres. Harding, Bremen, 51 cs.

CARD BOARD

Graff & Co., Arabic, Antwerp, 15 crates, 1 cs.

STRAW PULP BOARD

J. P. Heffernan Paper Co., Veendam, Rotterdam, 496 rolls.

STRAW BOARD

R. Wilson Paper Corp., Veendam, Rotterdam, 303 rolls.

MISCELLANEOUS PAPER

Kolesch & Co., Deutschland, Hamburg, 3 cs.
Perkins, Goodwin & Co., Deutschland, Hamburg, 17 bls.
Quality Art Novelty Co., Deutschland, Hamburg, 2 cs.
Quality Art Novelty Co., Rochambeau, Havre, 16 cs.
Titan Shipping Co., Rochambeau, Havre, 5 cs.
Japan Paper Co., American Farmer, London, 3 cs.
Corn Exchange Bank, Arabic, Antwerp, 50 cs.
Gallagher & Ascher, Minnetonka, London, 5 cs.
British American Tobacco Co., Paris, Havre, 8 cs.
Keller, Dorian Paper Co., Paris, Havre, 54 cs.
P. Puttman, Paris, Havre, 4 cs.
Whitfield Paper Works, Tsuyama Maru, Kobe, 27 cs.
G. C. Whitney Co., Pres. Harrison, Genoa, 4 cs.
International Forwarding Co., Veendam, Rotterdam, 7 cs.
Globe Shipping Co., Veendam, Rotterdam, 11 cs.
P. H. Petry & Co., Veendam, Rotterdam, 3 cs.

RAGS, BAGGINGS, ETC.

Bulkley, Dunton & Co., Deutschland, ——, 55 bls. rags.
Equitable Trust Co., Caledonia, Glasgow, 83 bls. rags.
Castle & Overton, Inc., London Exchange, London, 5 bls. rags.
Castle & Overton, Inc., London Exchange, London, 35 bls. bagging.
E. J. Keller Co., Inc., Conehatta, ——, 67 bls. bagging.
Darmstadt, Scott & Courtney, Conehatta, Manchester, 44 bls. new cuttings.
Salomon Bros. & Co., Conehatta, Manchester, 35 bls. new cuttings.
M. Snedeker Corp., Conehatta, Belfast, 101 bls. paper stock.
E. Butterworth & Co., Inc., Conehatta, Belfast, 191 bls. rags.
Anglo South American Trust Co., Tiradentes, Antwerp, 258 bls. jute card waste.
American Exchange Irving Trust Co., Tiradentes, Antwerp, 82 bls. rags.
Royal Manfg. Co., Tiradentes, Antwerp, 42 bls. thread waste.
E. J. Keller Co., Inc., Tiradentes, Antwerp, 98 bls. threads.
Kidder, Peabody Accep. Corp., Tiradentes, Antwerp, 28 bls. rags.
Equitable Trust Co., Tiradentes, Antwerp, 100 bls. flax waste.
Brown Bros. & Co., Minnetonka, London, 69 bls. rags.
Darmstadt, Scott & Courtney, West Calaumb, Buenos Aires, 65 bls. rags.
Mutnick Bros., Celtic, Liverpool, 43 bls. rags.
Jaffe Products Co., Orizaba, Havana, 19 bls. rags.
P. Garvan, Orizaba, Havana, 126 bls. rags.
B. D. Kaplan, West Nosska, Liverpool, 89 bls. rags.
Castle & Overton, Inc., West Nosska, Liverpool, 12 bls. rags.
Castle & Overton, Inc., Hague Maru, Osaka, 50 bls. rags.
Atlas Waste Manfg. Co., Hague Maru, Osaka, 20 bls. rags.
E. J. Keller Co., Inc., Sac City, Antwerp, 43 bls. rags.
V. Galaup, Sac City, Antwerp, 174 bls. rags.
A. Bloch & Co., Sac City, Antwerp, 53 bls. paper stock.
Hughes Fawcett, Sac City, Antwerp, 2 bls. flax waste.
General Fiber Co., Veendam, Rotterdam, 20 bls. rags.
Equitable Trust Co., Hellig Olav, Copenhagen, 400 bls. rags.
Chase National Bank, Hellig Olav, Copenhagen, 1,249 bls. rags.
Manufacturers Trust Co., Muenchen, Bremen, 116 bls. bagging.
E. J. Keller Co., Inc., Rigel, ——, 157 bls. rags.

OLD ROPE

N. E. Berzen, Deutschland, Hamburg, 132 coils.
N. E. Berzen, Rigel, Barcelona, 264 bls.
Brown Bros. & Co., Deutschland, Hamburg, 32 coils.
American Exchange Irving Trust Co., Providence, Marseilles, 236 bls.

MANILA ROPE

Ellermans' Wilson Line, Minnetonka, London, 36 coils.
Ellermans' Wilson Line, Berengaria, Southampton, 15 bls.

CASEIN

West Virginia Pulp & Paper Co., Commercial Pilot, Buenos Aires, 500 bags, 30,000 ks.
National City Bank, Rochambeau, Havre, 400 bags.
M. E. Clarendon & Co., Sardinian Prince, B. Aires, 250 bags, 15,000 ks.

WOOD PULP

Atterbury Bros., Inc., Deutschland, Hamburg, 250 bls. wood pulp, 50 tons.
Buck, Kiaer & Co., Inc., Norefjord, Greaker, 2,250 bls. sulphite.
J. Anderson & Co., Norefjord, Sarpsborg, 1,380 bls. sulphite.
J. Anderson & Co., Hjelmaren, Gothenburg, 125 bls. wood pulp.
Buck, Kiaer & Co., Inc., Hjelmaren, Stockholm, 1,200 bls. sulphite.
Pagel, Horton & Co., Inc., Snestad, Gefle, 2,750 bls. sulphite, 279 tons.
Bulkley, Dunton & Co., Snestad, ——, 2,375 bls. sulphite, 480 tons.
Equitable Trust Co., Snestad, Norrsundet, 5,000 bls. sulphate.
Perkins, Goodwin & Co., Hellig Olav, Oslo, 400 bls. wood pulp.
American Exchange Irving Trust Co., Hellig Olav, Oslo, 400 bls. wood pulp.

WOOD PULP WADDING

Birn & Wachenheim, Veendam, Rotterdam, 50 bls., 10 cs.

WOOD FLOUR

B. D. Soberski, Norefjord, Frederickstad, 3,525 bags.

BALTIMORE IMPORTS

WEEK ENDING JULY 16, 1927

W. H. Masson, Conehatta, Belfast, 111 bls. waste paper.
Pagel, Horton & Co., Inc., Snestad, Gefle, 4,500 bls. sulphite, 811 tons.
Bulkley, Dunton & Co., Snestad, ——, 1,550 bls. sulphite, 314 tons.
Equitable Trust Co., Snestad, Norrsundet, 2,650 bls. sulphate.
E. J. Keller Co., Inc., Boschdyk, ——, 375 bls. wood pulp.
Castle & Overton, Inc., Hannover, Germany, 3,076 bls. wood pulp.

(*Continued on Page 62*)

GDC

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the
Manufacture of

New Paper Specialties

or if you are confronted with color problems of any kind, such as fastness to light, fastness to alkali, two-sidedness, please consult our newly equipped laboratories and our experienced staff.

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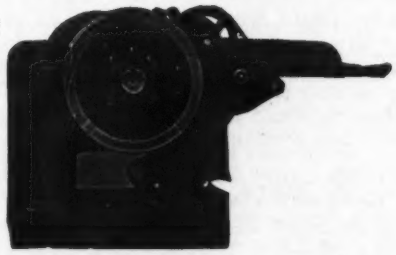
TAYLOR, STILES & CO'MPANY TRADE MARK GIANT REG. U.S. PAT. OFF. RIEGELSVILLE, N.J. U.S.A.

RAG CUTTERS



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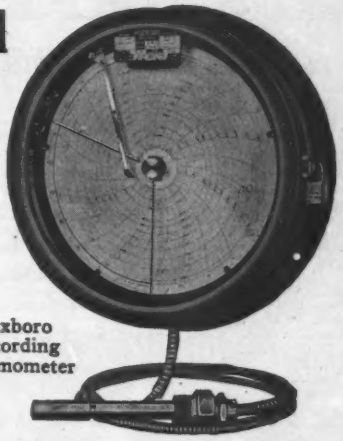
Canadian Representatives

Waterous Engine Works Company, Ltd., Brantford, Ont., Can.

Sole Agents for Europe

R. J. Marx, 133-139 Finsbury Pavement, London, E. C.

Foxboro Instruments Save Fuel



Foxboro Recording Thermometer

(You may not have thought of this side of the story)

No doubt you are familiar with the fuel economies effected by the use of Foxboro Draft Gauges, CO_2 Recorders and other boiler room instruments. But have you considered the savings in fuel possible through closer control of temperatures and pressures?

For instance, by installing Foxboro Recording Thermometers on the dryer rolls a large Eastern paper mill reduced the amount of coal consumed per ton of paper produced from 3,000 to 1,900 lbs. Foxboro Instruments in this case provided a constant check on drying efficiency, made possible a more uniform quality of paper and cut the company's coal bill 37 per cent!

Similar savings may be effected in **your** plant. Foxboro Engineers will be glad to discuss your problems with you. Our nearest office is at your service.

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FOXBORO
REG. U. S. PAT. OFF.
THE COMPASS OF INDUSTRY

Imports of Paper and Paper Stock

(*Continued From Page 60*)

PHILADELPHIA IMPORTS

WEEK ENDING JULY 16, 1927

Congoleum Nairn Co., Laguna, Naples, 130 bls. rags.
A. Murphy, London Exchange, London, 3 cs. paper.
G. M. Graves Co., Inc., London Exchange, London, 138 bls. rags.
G. M. Graves Co., Inc., London Exchange, London, 76 bls. bagging.
O. G. Hempstead & Co., London Exchange, London, 328 bls. rags.
Phila. Girard National Bank, London Exchange, London, 59 bls. rags.
Chase National Bank, London Exchange, London, 65 bls. rags.
J. B. Moors & Co., London Exchange, London, 105 bls. rags.
J. Lang Paper Co., London Exchange, London, 267 bls. paper stock.
Salomon Bros. & Co., Rigel, Marseilles, 48 bls. rags.
S. Birkenstein & Son, Rigel, Marseilles, 107 bls. rags.
S. Birkenstein & Son, Rigel, Marseilles, 94 rolls manila rope.
R. Canovai & Son, Rigel, Marseilles, 190 bls. rags.
National City Bank, Rigel, Leghorn, 102 bls. rags.
M. Friedman, Sac City, Antwerp, 98 bls. rags.
Equitable Trust Co., Sac City, Antwerp, 126 bls. rags.
Castle & Overton, Inc., Sac City, Antwerp, 224 bls. rags.
D. I. Murphy, Sac City, Antwerp, 181 bls. rags.
Capitol National Bank & Trust Co., Sac City, Antwerp, 69 bls. rags.
Bulkley, Dunton & Co., Hague Maru, ——, 50 bls. rags.
D. I. Murphy, Hague Maru, Kobe, 200 bls. rags.
Castle & Overton, Inc., Bellepline, Rotterdam, 1,462 bls. wood pulp, 220 tons.
Spaulding & Tewksbury, Bellepline, Rotterdam, 80 rolls straw board.
A. W. Fenton, Inc., Bellepline, Rotterdam, 37 bls. rags.
Castle & Overton, Inc., City of Flint, England, 77 bls. paper stock.
Castle & Overton, Inc., Luxpalile, Greece, 327 bls. rags.
Castle & Overton, Inc., Breedyk, Holland, 73 bls. rags.
Castle & Overton, Inc., Exeter City, England, 77 bls. rags.
Castle & Overton, Inc., Kari Skogland, France, 177 bls. rags.
Castle & Overton, Inc., Ontario, France, 178 bls. rags.
Castle & Overton, Inc., Hannover, Germany, 367 bls. wood pulp.
E. J. Keller Co., Inc., Manchester Shipper, Manchester, 142 bls. bagging.
E. J. Keller Co., Inc., Ossa, ——, 507 bls. rags.
E. J. Keller Co., Inc., Hawaiian, ——, 70 bls. rags.

BOSTON IMPORTS

WEEK ENDING JULY 16, 1927

1st National Bank of Boston, Sawokla, Buenos Aires, 417 bags casein, 25,020 ks.
T. M. Duche & Sons, Sawokla, Buenos Aires, 1,251 bags casein, 75,060 ks.
Baring Bros. & Co., Ltd., Tiradentes, Antwerp, 117 bls. bagging.
Spaulding Fibre Co., Tiradentes, Antwerp, 540 bls. flax waste.
1st National Bank of Boston, Tiradentes, Antwerp, 76 bls. flax waste.
T. D. Downing & Co., Tiradentes, Antwerp, 102 bls. flax waste.
American Felt Co., Tiradentes, Antwerp, 37 bls. flax waste.
Websters Atlas National Bank, Tiradentes, Antwerp, 55 bls. flax waste.
American Exchange Irving Trust Co., Tiradentes, Antwerp, 64 bls. old rope.
Chemical National Bank, Tiradentes, Antwerp, 158 bls. rags.
G. M. Graves Co., Inc., West Nosska, Glasgow, 44 bls. bagging.
1st National Bank of Boston, West Nosska, Liverpool, 14 coils cotton rope.
J. Anderson & Co., Hjelmaren, Gothenburg, 1,500 bls. wood pulp.
The Borregaard Co., Inc., Hjelmaren, Gothenburg, 513 bls. wood pulp.
D. M. Hicks, Inc., Hjelmaren, Gothenburg, 125 bls. wood pulp.
Buck, Kiaer & Co., Inc., Hjelmaren, Stockholm, 1,200 bls. sulphite.
Pagel, Horton & Co., Inc., Snestad, Gefle, 4,375 bls. sulphite, 455 tons.
Bulkley, Dunton & Co., Snestad, ——, 1,000 bls. sulphite, 202 tons.
Equitable Trust Co., Snestad, Norrsundet, 5,875 bls. sulphate.
T. M. Duche & Sons, Sardinian Prince, Buenos Aires, 834 bags casein, 50,040 ks.
Buck, Kiaer & Co., Inc., Mexicano, Oslo, 2,400 bls. sulphite.

PORTLAND IMPORTS

WEEK ENDING JULY 16, 1927

Waterfalls Paper Mills, Hjelmaren, Gothenburg, 6,000 bls. wood pulp.
Waterfalls Paper Mills, Hjelmaren, Gothenburg, 189 bls. paper.
American Exchange Irving Trust Co., Hjelmaren, Kotka, 300 bls. sulphite.
Equitable Trust Co., Snestad, Norrsundet, 1,250 bls. sulphate.
Pagel, Horton & Co., Inc., Snestad, Gefle, 10,000 bls. sulphite, 1,270 tons.

CHARLESTON IMPORTS

WEEK ENDING JULY 16, 1927

E. J. Keller Co., Inc., Arizona, ——, 250 bls. bagging.

Rex Organization Buys Bath Iron Works

AUGUSTA, Me., July 13, 1927.—The Rex Pulp Products Company, manufacturers of pie plates and allied pulp products, is the new industry which will be established in the plant of the Bath Iron Works at Bath, Walter S. Wyman, president of the Central Maine Power Company, announced today. This company has just been incorporated under the laws of Maine and is sponsored by some of the best-known financial interests in Maine, Massachusetts, New York and Illinois. It will be a "close" corporation, in that the company will be free of bonded indebtedness, mortgages on property, etc., and all its financial needs have been taken care of without recourse to public sale of any of its securities.

Work of renovating the plant of the former iron company already has started, and it is expected that the new company will be in production by December 1. Approximately 50 men will be employed at first and this number will be gradually increased later as operations reach capacity. The company will equip its new home in Bath with a special type of machinery that has just been perfected for the pulp products industry. It will have a manufacturing capacity that is said to be twice as great as any machine now in operation and will control the exclusive patent rights to it.

Sponsors of the Rex Pulp Products Company, who also will serve as its board of directors, are: Spaulding Bisbee, Portland, manufacturer and banker; Walter S. Wyman, Augusta, president of the New England Public Service Company and the Central Maine Power Company; Ward F. Paine, Boston, member of the firm Paine, Webber & Co., public utility operators and owners of the Portland Gas Company; Morris F. LaCroix, Boston, also a member of Paine, Webber & Co.; S. Stanwood Menken, attorney in New York City; John M. Hart, Chicago, sales agent for the Keyes Fiber Company of Waterville; Merle P. Chaplin, New York, long recognized as an expert in the pulp industry; W. E. Parsons, Portland, and Guy P. Gannett, Portland.

Preliminary to the start of operations at Bath, the new company will build a ground wood mill, especially equipped to produce quality and character of spruce ground wood required for their output. This will make the company the only manufacturer of pie plates in the United States which operates its ground wood mill adjacent to its main plant. This factor is important in greatly reducing operating costs, officials said yesterday, as it permits delivery of slush pulp direct to the factory, eliminating the necessity of forming ground wood into sheets and transporting this in cars.

The plant of the former Bath Iron Works, Ltd., was selected by the Rex Pulp Products Company out of more than 40 inspected in all parts of the United States. Few changes will be required to prepare the plant for the manufacture of moulded pulp products, officials of the new company said today. One of the best advantages Bath offers, said Mr. Wyman, is its shipping facilities, permitting the landing of pulp at the docks at relatively cheap cost. Then, too, the city has fine facilities for shipping out the finished products, both by rail and water.

Mr. Wyman paid tribute to his associates in the New England Public Service Company who made it possible to purchase the Bath plant when it was in danger of being dismantled and eventually lost to the State. Engineers of the Central Maine Power Company have been at work surveying the Bath Iron Works and its stretch of waterfront the past week and will be prepared to present final estimates of the work required within a few weeks.

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Belt Fasteners
Every year sees a large increase in the number of users of FLEXCO H. D. Belt Fasteners. Their compression grip has worked out most satisfactorily from the practical standpoint. Note the tight butt joint. Made in five sizes for all conveyors from ¼ inch up to the largest.
Write us for full description and nearest jobber. Consultation invited.
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MADE IN U.S.A.
The new FLEXCO Clips speed up application. They hold belt heads rigidly in position in plate while nuts are tightened. Now included in every box without added cost.
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Felts for Paper Manufacturers certainly recommends our ability to satisfactorily serve your requirements

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DRYER FELTS

English Weave—Fine Face Felt in Three, Four, Five and Six Ply—60" to 214" in width—insure large production. Absolutely no felt marks in paper.

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Our Standard Stock Pump handles stocks of consistencies up to 4% with excellent efficiency. Our Super-Stock Pump will efficiently handle 6% stock.

There is a Type of Frederick Pump Suitable to Every Need of a Paper Mill

The Frederick Iron & Steel Company
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New York Market Review

Office of THE PAPER TRADE JOURNAL,
Wednesday, July 20, 1927.

Affected by the heat wave and the holiday period, conditions in the local paper market were rather quiet during the past week. Demand for the various grades of paper was only moderate and little expansion is anticipated until after Labor Day. While the sales forces of the leading paper houses have been relaxing their efforts to some extent, a strenuous and successful wind-up of the year is confidently anticipated.

News print is in seasonal request and consumption is highly satisfactory for the time of the year. Production is being maintained in excellent volume. According to the News Print Service Bureau, during June the United States mills operated at 82.9 per cent capacity and the Canadian mills at 84.7 per cent. Stocks of news print paper at the United States mills totaled 26,549 tons at the end of June, and at Canadian mills 28,851 tons, which was equivalent to 4.1 days average production.

The various grades of paper board are in slightly improved demand. Production is expanding and is being well absorbed, according to reliable reports. Prices remain unaltered. The fine paper division is fairly active, but most of the orders booked have been for small orders for immediate requirements. Prices are holding up to schedule, in most instances. The tone of the coarse paper market is sound and the request for wrapping paper is slightly above normal for the summer season.

Mechanical Pulp

Conditions in the ground wood market are somewhat easier. Most of the business transacted recently has been along routine lines. No. 1 imported moist mechanical pulp is now being offered at from $28 to $30 per ton, and dry at from $32 to $34, ex dock, Atlantic ports. No change has been recorded in the quotation on domestic ground wood of late.

Chemical Pulp

Encouraged by the easier prices which have prevailed lately, the chemical pulp market has been moderately active and some fair-sized orders have been booked for future delivery. Imported easy bleaching sulphite is now offered at from $2.85 to 3.10. No. 1 strong unbleached sulphite is selling at from $2.50 to $2.75 and No. 2 at from $2.40 to $2.55. No. 2 Kraft is quoted at from $2.50 to $2.60, all ex dock, Atlantic ports.

Old Rope and Bagging

The old rope and bagging market is practically unchanged. Both domestic and imported old rope are in fairly satisfactory request and offerings are about sufficient to take care of current requirements. Bagging continues in moderate demand with prices generally holding up to previously quoted levels.

Rags

Improved interest is being manifested by the paper mills in both foreign and domestic rags, although the amount of new business being transacted is not very large. However, a satisfactory volume of inquiries is being received for future business and many observers predict more lively trading in the near future. Prices on most of the grades are holding up to previously quoted levels.

Waste Paper

The undertone of the paper stock market is strong, despite the fact that business is quiet at present, due to the usual midsummer lull. It is believed that stocks in the hands of the mills are low and that before long consumers will require to replenish their supplies. Quotations on the various grades of paper stock remain steady and unchanged, and there is not much talk of concessions.

Twine

While trading in the twine market of late has mostly been along routine lines, the position of the industry is considered quite satisfactory for the time of the year. In most quarters, a general expansion of trading is looked for in the autumn. Prices remain steady and unaltered and shading is infrequent.

Manitoba Mill Doubles Capacity

The Manitoba Pulp and Paper Company have put into operation their second machine, doubling the capacity of their mill at Pine Falls, Man. In future both machines will be in operation continuously, according to C. C. Irvine, general manager. The total capacity is now 250 tons of news print per day.

The company is controlled by Spanish River-Abitibi interests and its output is sold through the Canadian Newsprint Company. Naturally the output will practically all be sold in the middle west of the United States. As both the Spanish River and the Abitibi companies have a financial interest in the Manitoba and St. Ann paper companies, the starting of the machines at both these new companies has a distinct bearing on the investment returns of the two older organizations.

Bids for Government Paper

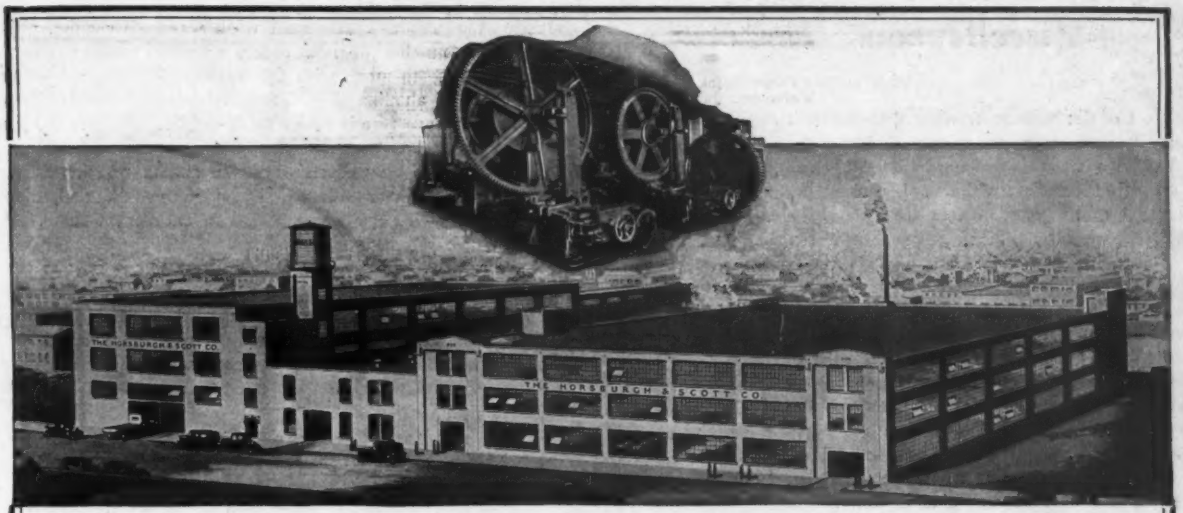
WASHINGTON, D. C., July 20, 1927.—The Government Printing Office has received the following bids for 10,500 pounds of 12 x 18—67, wood manila tag board: Barton, Duer & Koch Paper Company, at 4.75 cents per pound; Whitaker Paper Company, 5.6 cents; Old Dominion Paper Company, 4.9 cents; Stanford Paper Company, 4.85 cents, and Virginia Paper Company, 4.75 cents.

The Printing Office will receive bids on July 22 for 5,000 sheets (100 pounds) of 24 x 38½ Mann's parchment copying tissue or equal.

Exports of Pulp From Finland Increase

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., July 12, 1927.—Exports of pulp from Finland during the first quarter of the current year show a notable increase as compared with the corresponding period of last year, shipments of ground wood having risen from 5,717 tons to 16,498 tons and of chemical pulp from 58,039 to 81,925 tons. There has been a slight decrease in exports of board and news print but shipments of other classes of paper have been larger than during the first quarter of 1926.



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Gears for Every Industrial Purpose—Worm—Bevel—Herringbone—Spur—Spiral—Hardened Heat Treated Gears—Non-Metallic Gears and Pinions

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PRODUCTS

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CASEIN

CASEIN SOLVENTS

SOFTENERS

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Paper Makers Chemical Co.—Easton, Pa., Holyoke, Mass.
Western Paper Makers Chemical Co.—Kalamazoo, Mich., Pensacola, Fla., Jacksonville, Fla., Savannah, Ga., Comstock, Mich.
C. K. Williams & Company, Easton, Pa.
Georgia-Louisiana Company, East Point, Ga., Merrero, La.
Southern Pine Products Company, Fargo, Ga., Tarver, Ga.
Empire Size & Chemical Co., Albany, N. Y.
Adirondack Mineral Co., Carthage, N. Y.
Superior Sizing Company, Lockport, N. Y.
Paper Makers Importing Co., Easton, Pa., St. Austell, Cornwall, Eng.
Vera Chemical Co. of Canada, Ltd., Freeman, Ontario.
Vera Chemical Corporation, Stoneham, Mass.
Vera Chemical Company, North Milwaukee, Wis.
John Regnier & Son Company, Boston, Mass.
George P. Mepham Company, St. Louis, Mo.
Pochins & Paper Makers Chemicals, Ltd., Erith, Kent and Manchester, Eng.

Miscellaneous Markets

Office of THE PAPER TRADE JOURNAL,
Wednesday, July 20, 1927.

Most of the business transacted in the local chemical market during the past week was along routine lines and no great revival of activity is anticipated until after the close of the summer vacation period. Contract withdrawals are moving at a normal pace for the time of the year. Prices are generally holding up to schedule and there is little talk of concessions around at present.

BLANC FIXE.—The blanc fixe market was rather quiet during the week and the demand for both the pulp and the powder was only moderate. Prices were slightly easier. The pulp is still quoted at $60 per ton, in bulk, while the powder is now selling at from 4 cents to 4½ cents a pound, in barrels, at works.

BLEACHING POWDER.—Steadiness continues to prevail in the bleaching powder market. The demand for this product is excellent and contract shipments are moving at a satisfactory pace. Offerings at present are limited and prices are firm. Bleaching powder is still quoted at from $2 to $2.40 per 100 pounds, in large drums, at works, according to quantity.

CASEIN.—Supplies of domestic casein were offered in greater volume during the past week and the market was slightly easier. Offerings of the imported product were also more liberal. Prices remain unchanged. Domestic casein is selling at from 17½ cents to 19 cents a pound, while foreign casein is quoted at from 18 cents to 18½ cents a pound, all in bags, car lot quantities.

CAUSTIC SODA.—Production of caustic soda is reported to be running at nearly full capacity and consumption is holding up in a very satisfactory manner. Contract shipments have been unusually large of late. Caustic soda is offered at from $3 to $3.10 per 100 pounds, in large drums, at works. Spot car lots are quoted at from $3.20 to $3.25 per 100 pounds.

CHINA CLAY.—Trading in the china clay market was fairly active during the week and prices are generally holding up to schedule. Inquiries for future business denote more active conditions in the coming autumn. Imported china clay is quoted at from $15 to $25 a ton, ship side. Domestic paper makers' clay is still selling at from $8 to $9 a ton, at mine, and pulverized at from $10 to $12 a ton.

CHLORINE—While the chlorine market is somewhat quieter, contract withdrawals continue to move in a normal manner. Prices are holding to the schedule that has been in force for some considerable time. Chlorine is selling at 4 cents a pound, in tanks, or multi-unit cars, at works, on contract orders. The spot quotation is still from 4¼ cents to 4½ cents a pound.

ROSIN.—Demand for rosin has improved and quotations are firmer than for some time past. At the naval stores, the grades of gum rosin used in the paper mills are now offered at around $9.90 per 280 pounds, ship side, in barrels. Wood rosin remains unchanged at $9.50 per 280 pounds, southern shipping points.

SALT CAKE.—Conditions in the salt cake market are very healthy. Inquiries are numerous and, with offerings decidedly limited, prices remain steady to firm. Salt cake is quoted at from $18 to $19 a ton, in bulk, at works. Chrome salt cake is in good request and is selling at from $14 to $15 a ton, in bulk, at works.

SODA ASH.—Manufacturers of soda ash report that the large output that has been maintained lately is being readily absorbed, and that the product is moving into consumption at a steady pace. Prices remain unaltered. Contract quotations on soda ash, in car lots, at works, per 100 pounds, remain as follows: in bulk, $1.20; in bags, $1.32½, and in barrels, $1.57½.

STARCH.—The tone of the starch market is sound and demand continues quite active. Prices remain unchanged, although manufacturing costs are now higher than when the prevailing quotation was established. Special paper makers' starch is still selling at $3.07 per 100 pounds, in bags, and at $3.24 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—Business in the sulphate of alumina market during the past week was rather quiet, although a moderate number of new orders were booked. Contract shipments continue to move with fair regularity. Commercial grades of sulphate of alumina are offered at from $1.40 to $1.45 per 100 pounds. The iron free is selling at from $2 to $2.05 per 100 pounds, in bags, at works.

SULPHUR.—The undertone of the sulphur market is strong. Demand is satisfactory for the season of the year, and shipments are going forward into consumption in excellent volume. Prices remain unaltered. Sulphur is still quoted at from $18 to $19 a ton, in bulk, at mine, on contract orders. The spot quotation remains unchanged at $20 a ton.

TALC.—No radical changes are reported in the talc market during the past week. Prices are holding up to schedule in a satisfactory manner. Quotations on domestic talc range from $16 to $18 a ton, at eastern mines. French talc is still quoted at from $18 to $22 a ton, ship side.

Mid States Gummed Paper Co. Holds Picnic

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., July 11, 1927.—The first annual picnic of the Mid-States Gummed Paper Company for employees and their families was held in the DeLuxe Gardens, Franklin Park, Ill., Saturday, June 25. The entire organization attended and a most enjoyable time is reported.

Early Saturday morning all employees and their families, including both the factory and the general office gathered in front of the factory at 2433 So. Robey street. There were plenty of automobiles and busses to provide transportation for all. Mothers, fathers, wives, children and sweethearts were present in considerable numbers, and the large hampers and baskets of food which they brought presaged that the "basket lunch" portion of the picnic was to be more than merely a name.

All the cars were decorated with placards and the Mid-States colors, and formed in parade to Franklin Park, some thirty miles distant where the picnic was held in a beautiful grove.

Free entertainment in the form of an orchestra for dancing, refreshments, lemonade, pop, ice-cream, games, races and contests, etc., for the children made the occasion one long to be remembered.

One of the features of the day was a baseball game between the office and the factory. A good deal of rivalry had been evidenced and the game took on all the aspects of a "big league headliner." It finally resulted in victory for the office team.

When evening came every one went home tired but happy, but with a firm resolution that they would certainly attend next year's Mid-States Annual Picnic.

News of the Boston Paper Trade

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., July 18, 1927.—Messrs. Finley and Gilmore, representatives of the advertising department of the Columbia Paper Company, Washington, D. C., are distributing to the printing trade a new sample book of paper covers, which is one of the largest and most expensive ever seen here. Four Boston houses are distributors of this paper.

Bird's Neponset Review for July contains an interesting article in regard to Charles Sumner Bird, president of Bird & Son, and his fifty years of service with that company.

The T. C. Greene Paper Company, which has recently been formed to sell printing papers is located at 10 High street. T. C. Greene, formerly with the Kennelly Paper Company, New York and Boston, is president and treasurer, and Roger B. Tyler, secretary. The directors are the preceding and John L. Munro and W. W. Buckley.

Wayne Brown of the Crown Willamette Paper Company, San Francisco, and T. H. Donlan, of the Detroit Sulphite Pulp and Paper Company, visited the trade last week.

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300 tons daily

AMERICAN MADE FOR AMERICAN TRADE

Over forty-one years' experience in the clay industry has naturally resulted in the adoption of the most scientific methods and practices. This record of achievement is your guarantee of Clay of absolute uniformity at prices consistent with M. E. quality and service.

Prices of M-E pulverized clay may surprise you even considering this additional treatment.

Let us submit sample and quote you.

THE

MINER-EDGAR CO.

110 William St.,
NEW YORK

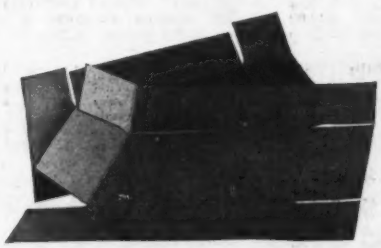
THE advantages of unified control

are reflected in the quality of International Salt. From the large mines themselves . . . through extensive refining and purification processes . . . to the shipping platforms of International warehouses located in strategic points . . . every operation is guided by the skill and knowledge of this experienced organization.

When you order International Salt you are investing in salt satisfaction

INTERNATIONAL
SALT COMPANY, INC
General Offices: Scranton, Pa
New York Office: 475 5th Ave

Paper Makers *and* Paper Shippers

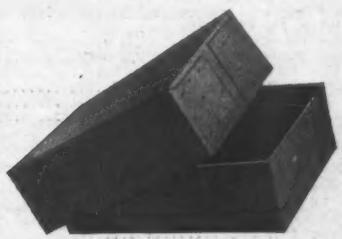


CARTONS can be ordered in the flat, die-cut and scored, ready for assembling, and STITCHING MACHINES INSTALLED TO ASSEMBLE CARTONS AS NEEDED. The cost of cartons *in the flat* is lower, the freight is less, and the storage space greatly reduced when handled in this manner.

One Operator Can Stitch Up to 1,000 Containers Per Day

2 Flat Blanks—
A Morrison "Perfection" Stitcher—
and You Have a Complete Telescope Container!

WRITE NEAREST OFFICE FOR DETAILED INFORMATION



THE J. L. MORRISON COMPANY, INC.

General Offices and Factory: NIAGARA FALLS, N. Y.

424 West 33rd Street—NEW YORK CITY 116 West Harrison Street—CHICAGO 445 King Street, West—TORONTO, CANADA

Market Quotations

Quoted by Hepburn & Co., 74 Broadway, N. Y. City, to whom all inquiry for quotations on these or any other Securities is referred.

BONDS	BID	OFFERED
Advance Bag & Paper, 7s 1943	105	107
A. P. W. Pulp & Power, 7s 1945	101	102
American Writing Paper, 6s 1947	79	82
Bastrap Pulp & Paper, 6½s 1940	100	103
British Columbia Pulp & Paper, 6s 1950	85	90*
Beaver Products Corp., 7½s 1942	106	109
Berkshire Hills Paper, 8s 1941	60	80
Brown Paper Co., 1st 5½s 1946	94	98
Bryant Paper Co., 6s 1942	100½	102
Cape Breton Pulp & Paper, 6s 1932	101	103
Central Paper Serial 6, 6½s 1942	89	...
Champion Coated Paper, 6s 1926 to 1932	99	...
Champion Fibre, 8s 1930	100	...
Champion Paper Corp'n, 1st 6s 1945	95	97
Continental Paper Products, 6½s 1943	88	91½
Cornell Wood Prod., 7½s 1937	100	104*
Crown Willamette Paper, 6s 1951	97	101
Donnaconna Paper, 6s 1940	101	102½
Dells Paper & Pulp Serial, 6s 1926-38	*95	...
Eastern Mfg. Co., 7s 1938	89	91
Eddy Paper, 7½s 1931	102	104
Escanaba Paper Serial, 6s 1926-39	94	96
Fuller Fibre Serial, 7s 1926-39	95	...
Fort Orange Paper, 7s 1942	95	100*
Fox River Paper, 7s 1931	99	...
Gair Co. (The Robt.), 7s 1937	104	106
Gilbert Paper Co., 6½s 1926-29	89	...
Hammermill Paper, 6s 1939	100	103*
Hoberg Paper & Fibre, 7s 1937	94½	96
Itaska Paper & Prairie River Power, J+5½s 1926-38	94	96*
Itaska Paper 1st, 6s 1933-38	96	98*
Kalamazoo Veg. Parchment, 6s 1938	98	...
Marinette & Menominee, 7½s 1936	101	...
Mead Pulp & Paper, 5% Notes, 1927-37	92	95
Menasha Printing & Carton, 6½s 1939	99½	...
Mengel Company, 7s 1926 to 1934	100*	102
Monroe Paper Products, 7½s 1932	96	...
Munising Paper, 6s 1927-36	96	100
Nekoosa Edwards, 1st Ref. 6s 1928 to 1942	96	99*
Orono Pulp & Paper, 6s 1943	98	...
Orono Pulp & Paper, 5s 1941	94	...
Oswego Falls Corp., 6s 1941	98	100*
Oxford Paper, 6s 1947	100	...
Paepcke Paper Mills, 7s 1930	99	None
Parsons Pulp & Lumber, 7s 1928	97	...
Parker Young Co., 6½s 1944	96½	98½
Paterson Parchment Paper, 6s 1938	100½	102
Penobscot Chemical Fibre, 6s 1942	98	...
Poland Paper, 7s 1930	98	...
Port Alfred Pulp, 6½s 1943	*96	...
Queens City Paper, 7s 1932	95	100*
Richardson Co., 6s 1938	100	...
Spanish River Pulp & Paper, 8s 1941	106	110
Stevens & Thompson Paper, 6s 1942	93	95
St. Anne Paper, 6½s 1946	95½	98*
St. Croix Paper, 5s 1926-37	95	98*
St. Regis Paper Serial, 6½s 1926-35	98½	...
Tait Paper & Color Industries, 6s 1934	90	95
Taggart Bros. Co., 6s 1944	94	97
Ticonderoga Pulp & Paper, 5s 1930	95	98
Ticonderoga Pulp & Paper, 6s 1940	99	101
Warren (The S. D.) Company, 6s 1945	99	101
Wotab Paper, 6½s 1943	102	...
Westfield River Paper, 7s 1926-43	Wanted	...
Whitaker Paper, 7s 1942	106	108
Witmer-Parsons Pulp & Lbr. (Units)	63	70

STOCKS	BID	ASKED
Advance Bag & Paper, 8% Pfd.	97	100*
Am. Tissue Mills, 7% Pfd.	95	100
British Columbia P. & P., Pfd.	65	70
Brompton Pulp & Paper, 8% Pfd.	93	98*
Brown Corpn., 7% Pfd.	97	100*
Champion Fibre, 7% Pfd.	99	103*
Diem & Wing, 7% Cum. Pfd.	87	...
Donnaconna Paper, Com.	58	...
Donnaconna Paper, Pfd.	95	100
Eastern Mfg. Co., 1st Pfd.	34	37
Great Northern Paper (new)	62	65
Hammermill Paper, 7% Pfd.	105	110
Hinde & Dauch, Com.	135	...
Hinde & Dauch, Pfd.	100	...
Holyoke Card & Paper	150	None
Marathon Paper Mills, Com.	125	...
Midwest Box Co., Pfd. 8%	80	85
Midwest Box Co., Pfd. 6%	55	65
Louis De Jonge Co., 7% Pfd.	93	96
Oxford Papers, Com.	170	———
Oxford Paper Co., Pfd.	175	———
Penobscot Chemical Fibre, Com.	65	75*
Richardson Co., 7% Pfd.	104	...
Rubberoid Company	85½	87½
Seaman Container, Class B (par $1)	1	None Off.
Seaman Paper Co.	Wanted	None Off.
St. Croix Paper	150	170
St. Regis Paper Co., 7% Cum. Pfd.	97	100
Westfield River Paper Co., 1st Pfd.	Wanted	None Off.
West Virginia Pulp and Paper, Com.	58	63
West Virginia Pulp and Paper, Pfd.	97	102
Whittaker Paper, 7% Cum. Pfd.	97	103

* Nominal.

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@45.00
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine Sized	8.00	@11.00
News—		
Rolls, contract	3.25	@ —
Rolls, transient	3.25	@ 3.50
Sheets	3.65	@ 3.85
Side Runs	3.00	@ 3.75
Book, Cased—		
S. & S. C.	6.35	@ 7.75
M. F.	6.35	@ 7.75
Coated and Enamel	8.00	@15.00
Lithograph	8.00	@15.00
Tissues—Per Ream—		
White No. 1	.75	@ 1.00
Anti-Tarnish	1.10	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.75	@ .85
Kraft	.90	@ 1.00
Manila	.75	@ .85
Kraft—		
No. 1 Domestic	6.25	@ 6.50
No. 2 Domestic	5.25	@ 5.50
Southern	4.75	@ 5.25
Imported	6.50	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	5.00	@ 5.50
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.75	@ 3.00
Screenings	3.00	@ 3.25
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00
(Delivered New York)		
Boards—per ton—		
News	47.50	@50.00
Straw	53.50	@57.50
Chip	45.00	@50.00
Binders' Boards	70.00	@75.00
Sgl. Mla. Lt. Chip.	57.50	@60.00
Wood Pulp	80.00	@85.00
Container	65.00	@70.00

Mechanical Pulp

(Ex-Dock)

No. 1 Imported—		
Moist	28.00	@30.00
Dry	32.00	@34.00
(F. o. b. Mill)		
No. 1 Domestic	27.00	@30.00
Screenings	15.00	@20.00

Chemical Pulp

(Ex-Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.50	@ 4.50
Easy Bleaching	2.85	@ 3.10
No. 1 strong unbleached	2.50	@ 2.75
Mitscherlich unbleached	2.65	@ 3.40
No. 2 strong unbleached	2.40	@ 2.55
No. 1 Kraft	2.70	@ 2.90
No. 2 Kraft	2.50	@ 2.60
Sulphate—		
Bleached	3.75	@ 4.00
(F. o. b. Pulp Mill)		
Sulphite (Domestic)—		
Bleached	3.40	@ 4.75
Easy Bleaching Sulphite	2.85	@ 3.05
News Sulphite	2.50	@ 2.70
Mitscherlich	3.25	@ 3.75
Kraft (Domestic)	2.70	@ 3.40
Soda Bleached	3.50	@ 3.75
Sulphate Screenings—		
Coarse	.75	@ .85
Refined	1.50	@ 1.85

Domestic Rags

New Rags

Prices to Mill f. o. b. N. Y.

Shirt Cuttings—		
New White, No. 1	11.50	@12.00
New White, No. 2	8.00	@ 8.50
Silesias No. 1	7.25	@ 7.75
New Unbleached	10.50	@11.00
Washables	4.25	@ 4.75
Fancy	5.50	@ 6.00
Blue Overall	7.00	@ 7.50
New Blue Prints	5.25	@ 5.50
New Soft Blacks	5.25	@ 5.75
Mixed Khaki Cuttings	4.50	@ 5.25
Pink Corset Cuttings	8.00	@ 8.50
O. D. Khaki Cuttings	5.00	@ 5.50
Men's Corduroy	3.75	@ 4.25
New Mixed Blacks	3.50	@ 3.75
Old Rags		
White, No. 1—		
Repacked	5.75	@ 6.50
Miscellaneous	4.75	@ 5.25
White, No. 2—		
Repacked	3.25	@ 3.75
Miscellaneous	2.75	@ 3.00
St. Soiled, White	2.50	@ 2.75
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.65	@ 1.75
No. 1	1.65	@ 1.75
No. 2	1.35	@ 1.45
No. 3	1.25	@ 1.35
No. 4	1.25	@ 1.35
No. 5A	.95	@ 1.05

Foreign Rags

New Light Silesias	7.00	@ 7.50
Light Flannelettes	7.75	@ 8.50
Unbleached Cottons	10.00	@11.00
New White Cuttings	10.50	@11.50
New Light Oxfords	7.00	@ 7.50
New Light Prints	5.50	@ 6.50
New Mixed Cuttings	3.00	@ 3.50
New Dark Cuttings	2.75	@ 3.25
No. 1 White Linens	7.00	@ 7.75
No. 2 White Linens	5.25	@ 6.00
No. 3 White Linens	4.00	@ 4.50
No. 4 White Linens	3.00	@ 3.50
Old Extra Light Prints	2.75	@ 3.25
Ord. Light Prints	2.25	@ 2.50
Med Light Prints	1.85	@ 2.10
Dutch Blue Cottons	2.25	@ 2.50
German Blue Linens	2.50	@ 2.75
German Blue Cottons	2.00	@ 2.25
Checks and Blues	1.75	@ 2.00
Lindsay Garments	1.75	@ 1.80
Dark Cottons	1.60	@ 1.70
Shoppery	1.50	@ 1.60
French Blues	2.25	@ 2.50

Old Rope and Bagging

Prices to Mill f. o. b. N. Y.

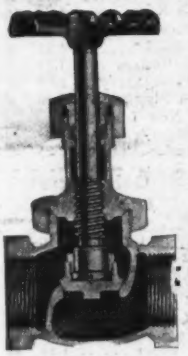
Gunny No. 1—		
Foreign	1.75	@ 1.85
Domestic	1.80	@ 1.90
Wool Tares, light	1.60	@ 1.70
Wool Tares, heavy	1.60	@ 1.70
Bright Bagging	1.60	@ 1.70
Small Mixed Rope	1.50	@ 1.65
Manila Rope—		
Foreign	3.25	@ 3.75
Domestic	4.25	@ 4.75
New Burlap Cut	3.00	@ 3.25
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, White, No. 1	3.25	@ 3.35
Hard, White, No. 2	2.75	@ 2.90
Soft, White, No. 1	2.75	@ 2.90
Flat Stock—		
Stitchless	1.25	@ 1.35
Overissue Mag.	1.25	@ 1.35
Solid Flat Book	1.15	@ 1.25
Crumpled No. 1	.80	@ .90
Solid Book Ledger	1.90	@ 2.10
Ledger Stock	1.40	@ 1.50
New B. B. Chips	.45	@ .55
Manilas—		
New Env. Cut	2.40	@ 2.60
New Cuttings	1.60	@ 1.85
Extra No. 1 old	1.25	@ 1.35
Print	.65	@ .75
Container Board	.50	@ .55
Bogus Wrapper	.70	@ .80
Old Kraft Machine		
Compressed bales	2.00	@ 2.10
News—		
No. 1 White News	1.55	@ 1.60
Strictly Overissue	.65	@ .75
Strictly Folded	.47½	@ .52½
No. 1 Mixed Paper	.37½	@ .42
Common Paper	.25	@ .30

A union bonnet valve for the "in-between" pressures



Sectional view, Fig. 750, screwed, Jenkins Bronze "Marine" Globe Valve, with regrinding seat and union bonnet.

For pressures between 150 and 225 lbs., a stronger valve than a standard pattern valve is needed, and yet the service does not require an extra heavy valve. For such work call on the Jenkins illustrated at the left.

This Jenkins union bonnet globe valve is a regrinding valve, designed originally for marine use but later adopted by the paper industry and a number of others.

Note in the sectional view, the powerfully threaded spindle of manganese bronze, the ample packing space with metal follower to compress the packing, and the bend seat at the neck which insures tight contact between body and bonnet.

JENKINS BROS.

80 White Street ....New York, N. Y.
524 Atlantic Avenue ....Boston, Mass.
133 No. Seventh Street Philadelphia, Pa.
646 Washington Boulevard Chicago, Ill.

JENKINS BROS., LIMITED
Montreal, Canada London, England

Always marked with the "Diamond"
Jenkins Valves
SINCE 1864

For Greater Economy
Without Sacrificing Quality

Use
ALPHA
FIBRE

Our new product—
which takes the place of
rags in paper-making

Inquiries from the trade are welcomed

BROWN COMPANY
founded 1852
PORTLAND, MAINE

Sulphur

A FIRST REQUISITE

IN

Paper Making

Large Production
Ample Reserves
Prompt Deliveries
Purity 99½%

TEXAS GULF SULPHUR CO.
41 E. 42nd Street New York City
Mine: Gulf, Matagorda County, Texas

WE WILL BUY

Advance Bag & Paper Co., 7s 1943	@105
American Sales Book Company 6s, 1939	@102
British Columbia Pulp & Paper 6, 1950	@ 86
Brown Co. 5½ 1946	@ 98⅞
Central Paper Co. 7s, 1933	@ 84½
Champion Fibre Co. 6s, 1941	@ 99¼
Continental Paper Products 6½	@ 88
Donnacona Paper Co. 6s, 1940	@101
Escanaba Paper Co. 6s, 1939	@ 94
Eastern Manufacturing Co. 7s, 1938	@ 89½
Great Northern Paper Company	@ 62
Lake Superior Paper Co. 6s, 1941	@104
Oxford Paper Co. 6s, 1947	@104
Paterson Parchment Paper 6s, 1938	@101

WE WILL SELL

Champion Paper Co. 6s, 1945	@ 97
Marinette & Menominee Paper 7½, 1936	@105
Nobug Paper & Fibre 7s	@ 96
Minnesota Ontario Paper 6s, 1950	@ 99½
Stevens & Thompson Paper Co. 6s, 1942	@ 95
St. Regis Paper Company 6s	@100½

H. D. KNOX & CO.

44 Broad St., N. Y. 27 State St., Boston

Inquiries invited on all Paper Pulp Lumber Securities

Twines

F. o. b. Mill

Cotton—			
No. 1	.28	@	.29
No. 2	.26	@	.27
No. 3	.24	@	.25
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrapping, 3-6 Ply—			
No. 1	.21	@	.23
No. 2	.20	@	.22
Tube Rope—			
4-ply and larger	.18	@	.19
Fine Tube Yarn—			
5-ply and larger	.23	@	.27
4-ply	.24	@	.28
3-ply	.26	@	.30
Unfinished India—			
Basis	.16	@	.17
Paper Makers Twine			
Balls	.13	@	.15
Box Twine, 2-3 ply	.17	@	.19
Jute Rope	.21	@	.23
Ameri. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.18	@	.20
No. 2 Basis	.16	@	.18
Sisal Lath Yarn—			
No. 1	.16	@	.18
No. 2	.14	@	.16
Manila Rope	.24	@	.26

CHICAGO

All Rag Bond	.35	@	.41
No. 1 Rag Bond	.25	@	.35
No. 2 Rag Bond	.14	@	.25
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¼	@	.11
superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05½	@	.06¼
No. 1 S.&S.C. Book	.06¼	@	.07¼
No. 2 S.&S.C. Book	.05¼	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
News—Roll, mill	.03½	@	.04¼
News—Sheets, mill	.03¾	@	.04¼
No. 1 Manila	.04¼	@	.05¼
No. 1 Fibre	.04¼	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.05¼	@	.06¼
Southern Kraft	.04½	@	.05
No. 2 Kraft	.05	@	.05¼
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue—24x36 Sheet	.07	@	.07¾
White Tissue—20x30 sheet	.07¼	@	.07½
Boards, per ton—			
(Delivered Central Territory—			
Plain Chip	45.00	@	47.50
Solid News	47.50	@	—
Manila Line Chip	55.00	@	57.50
Container Lined—			
(Delivered Central Territory)—			
85 Test	65.00	@	70.00
100 Test	70.00	@	75.00

Old Papers

F. o. b. Chicago

Shavings—			
No. 1 Hard White	2.70	@	2.80
White Env. Cuttings	3.60	@	3.70
No. 1 Soft Shavings	2.30	@	2.40
No. 1 Mixed	1.35	@	1.45
No. 2 Mixed	1.05	@	1.10
Ledger & Writings	1.45	@	1.60
Solid Books	1.20	@	1.30
Blanks	1.30	@	1.40
Krafts	1.80	@	1.90
New Kraft Cuts	2.25	@	2.35
Manila Envelope Cuttings	2.00	@	2.10
Ex. No. 1 Manila	1.55	@	1.65
Print Manila	.80	@	.90
Folded News (overissue)	.35	@	.47
Old Newspapers—			
No. 1	.55	@	.60
No. 2	.50	@	.55
Mixed Papers—			
No. 1	.35	@	.40
Roofing Stocks—			
F. o. b. Chicago, net cash			
No. 1	30.00	@	—
No. 2	28.00	@	—

BOSTON

Paper

F. o. b. Mill

Ledgers—			
Sulphite	.07½	@	.15
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.07	@	.20
Superfines	.11	@	.31
News	.03½	@	.04
Book, Super	.06	@	.09
Book, M. F.	.05¾	@	.08½
Book, Coated	.08½	@	.20
Coated Litho	.09	@	.12
Label	09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.05¾	@	.06½
No. 2 Kraft	.04¾	@	.05¾
Common Bogus	.02	@	.02½
Delivered New England points			
Straw Board, rolls	.009		57.50
Straw Board in Sheets, basis 35s to 70s			53.50
Filled News Board			47.50
Chip Board			45.00
Single Manila Pulp lined board	55.00	@	60.00
Single White, patent coated board header	75.00	@	80.00
Wood Pulp Board	80.00	@	85.00
Binder Boards	70.00	@	75.00
(F. o. b. Mills)			
Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers

F. o. b. Boston

Shavings—			
No. 1 Hard White	3.15	@	3.30
White Blank News	1.40	@	1.50
Manila Env. Cuttings	2.00	@	2.25
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	2.85	@	3.00
No. 1 Soft White	2.75	@	3.00
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	2.00	@	2.25
No. 1 Books, Heavy	1.17½	@	1.30
No. 1 Books, Light	—	@	1.15
Old Kraft	1.75	@	1.90
No. 1 Old Manila	1.40	@	1.60
No. 1 Mixed Paper	.45	@	.50
Print Manila	.70	@	.80
Overissue News	.55	@	.60
Old Newspapers	.45	@	.50
Box Board, Chip	.45	@	.60

Bagging

Price f. o. b. Boston

Gunny No. 1—			
Foreign	1.50	@	1.60
Domestic	1.50	@	1.60
Manila Rope—			
Foreign	3.50	@	3.75
Domestic	4.00	@	4.37½
Mixed Rope	1.05	@	1.15
Scrap burlaps	1.35	@	—
Wool Tares, heavy	1.40	@	1.60
Mixed Strings	.90	@	1.05
New Burlap Cutting	2.15	@	2.25

Domestic Rags (New)

Price f. o. b. Boston

Shirt Cuttings—			
New White No. 1	.11¼	@	.11½
Silesias, No. 1	.07	@	.07½
New Unbleached	.10	@	.10¼
Fancy	.05¾	@	.06
Washable	.04½	@	—
Cottons—According to Grades—Blue—			
Blue Overalls	—	@	.07
New Black, soft	.04	@	.04¼
Khaki Cuttings	.05	@	.05¼
Corduroy	.03	@	.03½
New Canvas	.09	@	.10

Domestic Rags (Old)

Price f. o. b. Boston

White No. 1—			
Repacked	5.00	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Thirds and Blues—			
Repacked	2.12½	@	2.37½
Miscellaneous	1.75	@	1.90
Roofing Stock—			
No. 1	1.70	@	1.80
No. 2	1.48	@	—
No. 3	1.22½	@	—
No. 4	1.12½	@	—

PHILADELPHIA

Paper

F. o. b. Mill

Bonds	.07	@	.40
Ledgers	.11	@	.40
Writings—			
Superfine	13	@	.18
Extra fine	—	@	.22
Fine	.20	@	.26½
Fine, No. 2	16	@	.25
Fine, No. 3	.12	@	.20
Book, M. F.	.06¼	@	.07
Book, S. S. & C.	.06	@	.07½
Book, Coated	.11	@	.16
Coated Lithograph	.09	@	.12
Label	.09	@	.12
News	.03¾	@	.04
No. 1 Jute Manila	.09½	@	—
Manila Sul., No. 1	.04½	@	.06
Manila, No. 2	.04	@	.04½
No. 2 Kraft	.05	@	.05¼
No. 1 Kraft	.06	@	.06¼
Common Bogus	.02¼	@	—
Straw Board	60.00	@	65.00
News Board	45.00	@	50.00
Chip Board	40.00	@	42.00
Wood Pulp Board	4.50	@	5.00
(Carload Lots)			
Binder Boards—			
No. 1, per ton	85.00	@	90.00
No. 2, per ton	70.00	@	75.00
Carload lots	60.00	@	65.00
Tarred Felts—			
Regular	66.00	@	58.00
Slaters	70.00	@	72.00
Best Tarred, 1-ply (per roll)	1.85	@	1.95
Best Tarred, 2-ply (per roll)	1.55	@	1.70
Best Tarred, 3-ply	2.10	@	2.15
No. 1 Mixed Paper	.65	@	.70

Domestic Rags (New)

Price to Mill, f. o. b. Phila.

Shirt Cuttings—			
New White, No. 1	.11½	@	.12
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07½	@	.08
Black Silesia, soft)	.05	@	.05½
New Unbleached	.10½	@	.11
Washable	.04	@	.04½
Fancy	.05½	@	.06
Cottons—according to grades—			
Blue Overall	.07½	@	.08
New Blue	.03½	@	.04
New Black Soft	.05½	@	.06
New Light Seconds	.03	@	.03¼
Khaki Cuttings	.04½	@	.05
Corduroy	.03	@	.03¼
New Canvas	.08	@	.09
New Black Mixed	.05	@	.05½

Bagging

F. o. b. Phila

Gunny, No. 1—			
Foreign	1.75	@	2.00
Domestic	1.75	@	2.00
Manila Rope	4.25	@	4.50
Sisal Rope	1.25	@	2.00
Mixed Rope	1.25	@	1.50
Scrap Burlaps	1.75	@	2.00
Wool Tares, heavy	2.00	@	2.25
Mixed Strings	1.50	@	1.75
No. 1, New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.25	@	2.50

Old Papers

F. o. b. Phila.

Shavings—			
No. 1 Hard White	3.50	@	3.60
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	2.80	@	2.90
No. 2 Soft White	1.90	@	2.00
No. 1 Mixed	1.50	@	1.60
No. 2 Mixed	.90	@	1.00
Solid Ledger Stock	1.90	@	2.00
Writing Paper	1.65	@	1.75
No. 1 Books, heavy	1.15	@	1.20
No. 2 Books, light	.80	@	.85
No. 1 New Manila	2.40	@	2.50
No. 1 Old Manila	1.50	@	1.60
Print Manila	1.00	@	1.10
Container Manila	.75	@	.80
Old Kraft	2.00	@	2.20
Common Paper	.40	@	.50
No. 1 Mixed Paper	.50	@	.60
Straw Board, Chip	.60	@	.65
Binders Board, Chip	.60	@	.65
Overissue News	.75	@	.80
Old Newspaper	.50	@	.60

Domestic Rags (Old)

White, No. 1—			
Repacked	5.00	@	5.25
Miscellaneous	4.75	@	5.00
White, No. 2—			
Repacked	.03½	@	.04
Miscellaneous	.02	@	.02¼
Thirds and Blues—			
Repacked	2.50	@	2.75
Miscellaneous	1.75	@	2.00
Black Stockings	3.25	@	3.50
Roofing Stock—			
No. 1	1.62½	@	—
No. 2	1.37½	@	—
No. 3	1.25	@	1.35
No. 4	1.20	@	1.30
No. 5A	.90	@	1.00
B	.80	@	.90
C	.80	@	.90

TORONTO

Paper

F. o. b. Mill

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¼	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¼	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
News f. o. b. Mills—			
Rolls (Carloads)	3.25	@	—
Sheet (carload)	3.75	@	—
Sheets (2 tons or over)	4.00	@	—
Book—			
No. 1 M. F. (carloads)	7.75	@	—
No. 2 M. F. (carloads)	7.50	@	—
No. 3 M. F. (carloads)	7.25	@	—
No. 1 S. C. (carloads)	8.25	@	—
No. 2 S. C. (carloads)	8.00	@	—
No. 3 S. C. (carloads)	7.75	@	—
No. 1 Coated and litho	14.50	@	—
No. 2 Coated and litho	13.50	@	—
No. 3 Coated and litho	12.75	@	—
Coated tinted	.15	@	—
Wrapping—			
Rag Brown	4.85	@	—
White Rag	5.25	@	—
"B" Manila	5.65	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.20	@	—
M. G.	7.35	@	—

Pulp

(F. o. b. Mill)

Ground wood	28.00	@	30.00
Sulphite easy bleaching	60.00	@	—
Sulphite news grade	55.00	@	58.00
Sulphite, bleached	78.00	@	80.00
Sulphate	65.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.20	@	—
Soft White Book Shavings	3.00	@	—
White Blk, News	1.40	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.25	@	—
Light and Crumpled Book Stock	1.10	@	—
Ledgers and Writings	1.40	@	—
Solid Ledgers	1.40	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.80	@	—
Strictly Folded	.47½	@	.52½
No. 1 Mixed Paper	.37½	@	.42

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.12	@	.12½
Fancy Shirt Cuttings	.06	@	.06½

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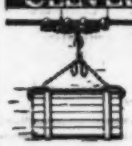
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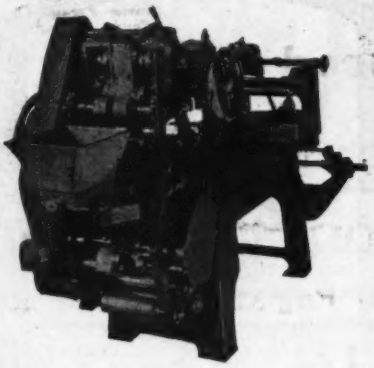

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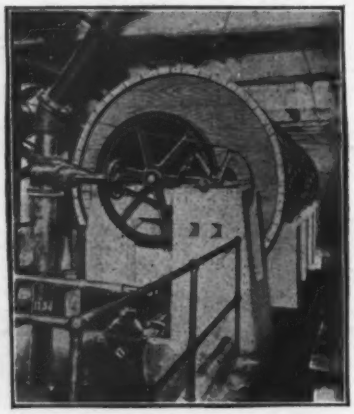

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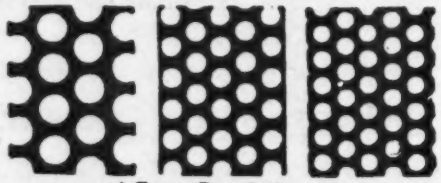

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HELP WANTED

WANTED—Young man, not over 30 years old, for paper mill superintendent's office. Must be experienced in paper mill cost work and familiar with various methods of testing paper. Give experience and salary expected. Address, Box 27-378, care Paper Trade Journal. Jl-21

IF YOU are open to overtures for new connection, and qualified for a salary between $2,500 and $25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service, of recognized standing and reputation, through which preliminaries are negotiated confidentially for positions of the calibre indicated. The procedure is individualized to each client's personal requirements; your identity covered and present position protected. Established sixteen years. Send only name and address for details. R. W. Bixby, Inc., 117 Downtown Building, Buffalo, New York. tf.

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SUPERINTENDENT for 80 ton Chip Board Mill. State age, experience, family, salary desired, and when could report. Address, Box 27-387, care Paper Trade Journal. Jl-21

WE REQUIRE Superintendent and two Assistant Superintendents for present and new mills. Must have experience in groundwood pulp and good mechanical knowledge. Address, Box 27-414, care Paper Trade Journal. A-4

WANTED—High grade tour Beater Engineer, experienced on lightweight Sulphite papers and good on colors. State age, education, married or single, experience and wage expected. Address, Box 27-413, care Paper Trade Journal. Jl-21

WANTED—An experienced salesman for wrapping paper. One who is well and favorably known by the wholesale coarse paper distributors can secure a good position. Territory east of the Mississippi River. Give full information upon applying as to age, experience, reference and idea of salary. Address, Box 27-405, care Paper Trade Journal. Jl-21

SUPERINTENDENT for Board Mill making test container board and specialties. Technically trained man preferred, having full knowledge of chemistry of board making. Address, Box 27-406, care Paper Trade Journal. Jl-21

BACK TENDER for high speed Cylinder paper machine. Apply Robert Gair Company, Piermont, New York. Attention: Mr. Harry F. Cassidy. A-4

WANTED—Back tenders for up-to-date Board Mill making combination boards, three shift basis. Address, Box 27-408, care Paper Trade Journal. Jl-21

HELP WANTED

WANTED—Tour Boss for three machine mill, both fourdrinier and cylinder. Must be experienced in the manufacture of both unbleached and bleached papers. In reply give age, previous experience and references. Address, Box 27-398, care Paper Trade Journal. Jl-28

WANTED—Young man not over 30 years old technically educated in pulp and paper making to assist in superintendent's office. Knowledge of cost work would be desirable. Reply, give age, previous experience and reference. Address, Box 27-399, care Paper Trade Journal. Jl-28

WANTED—A Machine Tender for up-to-date Board Mill making combination boards, three shift basis. Address, Box 27-409, care Paper Trade Journal. Jl-21

WANTED—Machine Tender and Beater Room Boss for two machine board mill in northern Wisconsin. Previous experience and A No. 1 reference required. Address, Box 27-415, care Paper Trade Journal. A-4

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A CHEMICAL ENGINEER with successful record in operation, engineering, development, sales service, and management, desires to make a permanent connection with a company whose management is sold on a thorough development program over a period of years, based on sound technical fundamentals. Such a program properly executed is the only sure guarantee of future earnings. Address, Box 27-380, care Paper Trade Journal. Jl-28

WANTED—Position as manager or superintendent of mill making binders, leather and other boards. Middle-aged man. Good at construction and repairs. Address, Box 27-381, care Paper Trade Journal. Jl-21

PAPER MILL SUPERINTENDENT—Trained on M. F. and M. G. Kraft and Sulphite papers, over various grades. Best of references. Address, Box 27-393, care Paper Trade Journal. S-8

GROUND WOOD FOREMAN and Millwright open for position. Best of references. Familiar with electrical equipment. Address, Box 27-346, care Paper Trade Journal. A-11

SUPERINTENDENT now employed wants new connection. Well up on Specialties on both Fourdrinier and Cylinder machines, covers, and absorbent papers. Expert on colors. Knows requirements of many converters. Address, Box 27-410, care Paper Trade Journal. Jl-28

POSITION WANTED—Working master mechanic with seventeen years experience. Good machinist and draftsman. Can lay out work to get results and figure costs to save money. Now employed. References. Address, Box 27-412, care Paper Trade Journal. Jl-28

SITUATIONS WANTED

POSITION WANTED—Superintendent or foreman; chip board or wrapper mill. Experienced at construction and remodeling. Eastern states preferred. Address, Box 27-382, care Paper Trade Journal. Jl-21

POSITION AS TOUR BOSS OR SUPERINTENDENT—Twenty-five years experience on most all kinds of paper, also glassine, greaseproof and groundwood. Good on colors. Address, Box 27-392, care Paper Trade Journal. Jl-21

ADJUSTER on Flat and Square and sock machines wishes position. Address, Box 27-397, care Paper Trade Journal. Jl-28

PAPER SALESMAN with twelve years experience seeking position as Chicago representative for manufacturer of fine papers. Address, Box 27-352, care Paper Trade Journal. tf.

PAPER SALESMAN with twelve years experience seeking position as Chicago representative for manufacturer of fine papers. Address, Box 27-352, care Paper Trade Journal. tf.

ASSISTANT SUPERINTENDENT — College graduate, chemist, nine years practical experience and research in rag fine writing papermaking and specialties, desires position with opportunity for advancement. Address, Box 27-320, care Paper Trade Journal. tf.

CYLINDER MACHINE TENDER—Good on any grade of stock. Will go anywhere. Address, Box 27-404, care Paper Trade Journal. Jl-28

STEADY, reliable man available at once as night superintendent, tour boss or machinist, with chance to advance. All grades box, test and container board. Address, Box 27-417, care Paper Trade Journal. Jl-28

POSITION WANTED—Pulp and paper mill engineer with ten years experience on maintenance, improvements and extensions, desires new connection. Best of references. Address, Box 27-418, care Paper Trade Journal. A-4

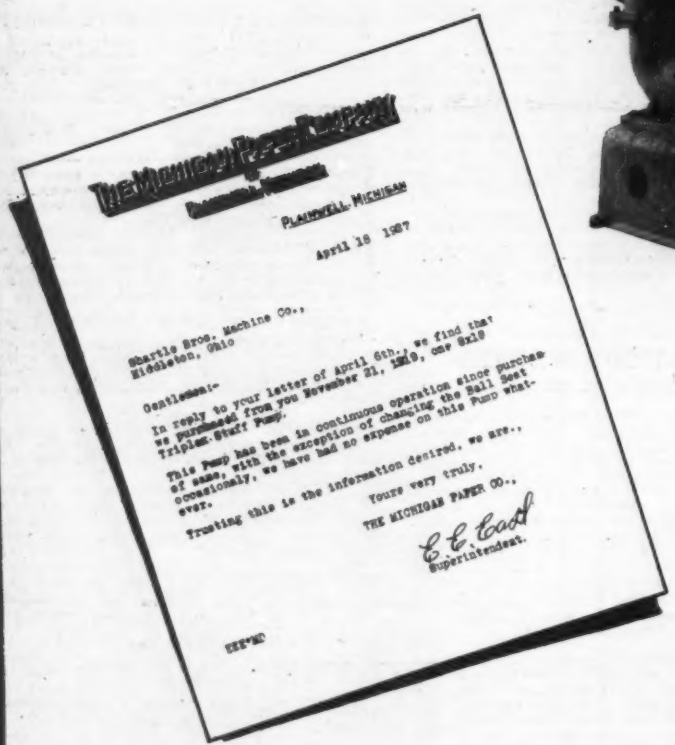
WANTED POSITION—Boss Beaterman or Beater Engineer. Family man, 37 years old. Experienced on most all grades. Good on colors. Address, Box 27-419, care Paper Trade Journal. Jl-21

MISCELLANEOUS

HAVE YOU any odd size Rolls or Sheets to offer, regardless of size or quantity? We are also interested in Damaged Paper—rejected lots—Wood Pulp—Tympan or Offset, either in Rolls or Sheets. Submit samples to Goldman Paper and Paper Stock Co., 414 So. Front Street, Philadelphia, Pa. tf.

WANTED—Mill ends and job lots in rolls or flats in any quantity, all grades. Also boards. Joseph Goldstein & Sons, 1302-9 N. Halsted Street, Chicago, Illinois. tf

Another Mill *praises* Shartle Pumps



PLAINWELL, MICHIGAN

April 16 1927

Shartle Bros. Machine Co.,
Middleton, Ohio

Gentlemen:-

In reply to your letter of April 6th, we find that we purchased from you November 21, 1919, one 8x10 Triplex Stuff Pump.

This Pump has been in continuous operation since purchased of same, with the exception of changing the Ball Seat occasionally, we have had no expense on this Pump whatever.

Trusting this is the information desired, we are,

Yours very truly,

THE MICHIGAN PAPER CO.,

E. E. East
Superintendent.

EEE'MC

It isn't what you pay, it's what you get that counts. Well on to 30 years' pump building experience and more than 1000 pump installations account for the Shartle-Miami pump performance that prompted the accompanying letter of commendation.

In pumps, as in other mill equipment, buy quality. In other words, to get maximum, long-time pumping satisfaction buy **SHARTLE-MIAMI.**

Shartle Brothers Machine Co.
MIDDLETOWN, OHIO

SHARTLE BROTHERS
DIVISION OF THE BLACK-CLAWSON COMPANY

MISCELLANEOUS

CLARK MANUFACTURING COMPANY, Holyoke, Mass. Telephone 1828. Builders of cylinder moulds, couch and felt rolls, dandy rolls. We cover dandies and cylinders tight, for fast running machines. 3-5-27

WANTED—We are interested in job lots of paper of any kind, large or small quantities. Submit samples and price. Ireland & Taub Paper Co., Inc., 121 Sullivan Street, New York. tf

WANTED—Mill ends, rejected, or damaged rolls, any quantity or grade. W. A. Johns Paper Company, 526 West 18th Street, Chicago, Illinois. J-21

TO PAPER MILLS PURCHASING PULP. If you are interested in securing a steady supply of pulp at a low price and will join us in the building of a mill on a site we own, having deep water and rail connections, where pulp wood can be secured for $2.00 per cord delivered at mill, and the best water, by actual test, for paper making in abundance, will be pleased to hear from you and to send you our proposition which we know will interest you. Address, Box 27-411, care Paper Trade Journal. A-11

WANTED

WANTED—2 W. & P. Pulpers, 2 Filter Presses and 1 Rogers Wet Machine. Address, Box 27-285, care Paper Trade Journal. tf.

WANTED—One Hamblet Cutter 65 inches or over and one Erie Layboy to attach. Address, Box 27-394, care Paper Trade Journal. Jl-21

WANTED—One 52 inch Super Calender—5 stack in good condition. Address, Box 27-395, care Paper Trade Journal. A-4

WANTED—10 Used Dryers 36" x 86" that will match with Moore & White Dryers of these dimensions, distance between frames 100". Address, Box 27-416, care Paper Trade Journal. Jl-21

FOR SALE

FOR SALE—Second-hand 1200 lb. wood tub N. & W. beater. In good condition. The Noble & Wood Machine Co., Hoosick Falls, N. Y tf.

FOR SALE—One 80" Hamblet Duplex Rotary Cutter, with Lay Boy, and 12 roll Hamblet Back Stands. Practically new. Address, Box 27-376, care Paper Trade Journal. Jl-21

FOR SALE—6 Used Jones Imperial Jordans, with bronze or steel fillings. Will sell "as is" or factory rebuilt. THE NOBLE & WOOD MACHINE CO., Hoosick Falls, N. Y. tf.

FOR SALE—Best pulp and paper mill site on Columbia River, Oregon. Situated in center of log production. Abundant water. 60,000 ft. capacity saw mill. Rail and water shipping facilities. Will sell at bargain or will exchange for stock in properly financed mill. Address, Box 27-390, care Paper Trade Journal. A-4

FOR SALE—Lockport No. 4 Flat and Square Bag Machine for making bags 15¼ inches to 25 inches long and 7 inches to 15 inches wide. Unused but set up, fully equipped, ready to run perfect bags. Address, Box 27-407, care Paper Trade Journal. Jl-21

Grinders, Four Pocket with Synchronous Motor

2—4 pocket grinders direct connected to synchronous motor, 2300 volt, 3 phase, 60 cycle, with extra shafting and stone.

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NEW YORK, N. Y.
Telephone Whitehall 5243
Cable Herenco

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For Good Used Machinery

ROTARY DRYERS AND KILNS
6—4' x 20' American Process.
2—6' x 60'.
1—6' x 100'.
1—8' x 125'.

PULPER MIXERS
1—W. & P. size 17-200 gals.
Also several smaller sizes.

TUBE AND ROD MILLS
1—3' 6" x 12' Allis Chalmers.
1—4' x 16' Schmidt.
5—5' x 22' Allis Chalmers.
7—5' 6" x 22' Schmidt.
1—6' x 22' Gates.

SULPHUR BURNERS
1—3' x 8' Glens Falls.
4—4' x 16' Glens Falls.
4—4' x 20' Glens Falls.

EVAPORATORS
1—Stokes Triple Effect, 1,000 sq. ft.
1—Scott Triple Effect, 1,350 sq. ft.
1—Swenson Triple Effect, 1,750 sq. ft.
2—Swenson Triple Effect, 3,300 sq. ft.

ROTARY FILTERS
2—6' x 4' Oliver.
2—6' x 6' Oliver.
2—6' x 6' Oliver, Acid Proof.
1—8' x 8' Oliver, Acid Proof.

SEND US YOUR INQUIRIES
WE BUY YOUR IDLE EQUIPMENT

CONSOLIDATED PRODUCTS COMPANY, INC.
15 PARK ROW NEW YORK, N. Y.
Barclay 0605

New Hydraulic Presses

2—Dunning and Boshert 600 tons Hydraulic Presses, 42" x 18", including one large and one small D. & B. Triplex pumps, complete with high pressure pipe, accumulator and fittings.

TECHNICAL ECONOMIST CORPORATION

40 RECTOR ST., NEW YORK, N. Y.

MANUFACTURERS

24 years of continuous experimenting has developed a radically new method of pulp manufacture. Regardless of your present costs we will easily reduce them 25 per cent and exactly duplicate your present product. Applicable to practically every grade. Make us prove it. Patent right lease still avilable in 10 states. Write or wire for demonstration details to G. Edson Borst, 144 Oneida Street, Milwaukee, Wis.

FOR SALE

FOR SALE

2—Iron tub Beaters, practically new. Rolls 70 x 66. Made by Emerson Mfg. Co.

1—Wood tub Beater, practically new. Roll 70 x 66. Made by Emerson Mfg. Co.

2—Dilts Beaters, iron tubs. Rolls 54 x 62. A-1 shape.

1—New Dilts iron tub Beater, roll 50 x 44.

4—Jones Washers. Iron tubs. Rolls 67 x 60. Good shape.

1—Dayton Beater and Hoist Iron tub Beater. A-1. Rolls 64" diameter, 54" face.

1—Breaker Roll 64" diameter by 54" face.

1—Downingtown Iron tub Beater with Brownell Buehler perforated back fall. Rebuilt for immediate shipment. Roll 44" x 44".

The Shartle Brothers Machine Co.
Middletown, Ohio tf.

PAPER MACHINES
For Sale

In good condition. Immediate delivery.

One 2 cylinder machine. 2 presses; 10 dryers 42" x 84"; one calender; reel; single drum winder; Marshall drive.

One Fourdrinier machine. Wire 96" x 50'. 2 presses; 15 dryers 48" x 94"; one calender; reel; two drum winder; Marshall drive.

By: FRANK H. DAVIS COMPANY
175 Richdale Avenue Cambridge, Mass.

FOR SALE

1—72" Model 10 Cameron.

11—Dryers 48" x 110".

60" trim Black-Clawson Fourdrinier machine.

Several White cedar stuff chests, A-1 shape.

1—48"—3 cylinder machine.

1—70"—2 cylinder machine.

Several Chippers.

Four deck Beloit frames. These are modern and extra heavy.

One Ryther & Pringle Multiple Saw Slasher. Will cut 32'.

One Farrel Roll Grinder.

One No. 2 Lannoye Pulper.

One 61" Holyoke Super-Calender

The Shartle Brothers Machine Company
Middletown, Ohio tf.

FOR SALE

1—72" Hamblet Single Cutter with 24 roll back stand.
1—84" Beloit heavy duty duplex.
1—84" Black-Clawson heavy duty duplex, with duplex slitter.
1—52" Moore & White Cutter with Moore & White Layboy and Backstands.
1—48" Moore & White Cutter with Moore & White Layboy and Backstands.
1—42" Moore & White Cutter with Moore & White Layboy and Backstands.
1—60" Hamblet Cutter with 10 roll Backstands.
1—110" Moore & White Cutter with Moore & White Layboy and Backstands.
1—82" Heavy duty Hamblet Single Cutter with 24 roll Backstands.
2—58" Moore & White Single Cutters.
4—54" Moore & White Single Cutters.
6—48" Moore & White Single Cutters.
1—57" Hamblet Duplex Cutter, Heavy Duty.

The Shartle Brothers Machine Co.,
Middletown, Ohio tf.

FOR SALE
BOARD MILL EQUIPMENT

3—800 lb. Downingtown Beaters.
2—70" Downingtown Wet Machines.
1—48" Stack Board Calenders.
1—36" Stack Board Calenders.
1—120 Ton Screw Press.
1—65" Ream Cutter.
250 H.P. and 150 H.P. Engines.

Address, Box 27-270, care Paper Trade Journal.

SITUATIONS WANTED

SUPERINTENDENT desires change, age 28, married, eleven years experience on box board, chip, and high grade specialties. At present employed as Superintendent in eastern plant. Have business possibility in new line for right concern. Address, Box 27-420, care Paper Trade Journal. Jl-21

PAPER MAKER—Expert ability, wants to connect with capital, to manufacture product that will pay large dividends. Reference exchanged. Address, Box 27-421, care Paper Trade Journal. A-4

SUPERINTENDENT—Or job where advancement is assured. Fast board jobs, .009 straw, dry felt. 33 years old, hustler. Come at once. Address, Box 27-422, care Paper Trade Journal. Jl-28

Many Times Some Little Classified Advertisement Placed in These Columns Usually Brings Some Very Satisfactory Results

FOR SALE

One Rice, Barton & Fales 146" trim Fourdrinier Paper Machine, capable of speed 650' per minute, all complete with thirty-two 48" diameter dryers, 9 roll calender stack, reel, winder, etc. In A-1 condition at very reasonable price. Shipment about 3 months.

Apply:—

Gibbs-Brower Company, Inc.

Paper and Pulp Mill Brokers

261 Broadway, New York City—Telephone Barclay 8020
166 W. Jackson St., Chicago, Ill.—Telephone Harrison 0151

OUR MOTTO—"Service First"

Receiver's Sale
Paper Mill and Equipment

By authority of an Order of the Court of Common Pleas of Lawrence County, Pennsylvania, at No. 1, June Term, 1927, in Equity, I will offer at public sale on the premises, on Thursday, August 4, 1927, at 1 o'clock P. M., Eastern Standard Time:

All that certain piece or parcel of land situated partly in the Second Ward and partly in the Third Ward of the city of New Castle, in Lawrence County, Pennsylvania, containing thirty and eighty-nine hundredths (30.89) acres of land together with all the water rights of Newcastle Paper Products Corporation in the Neshannock Creek, including dam, races and other riparian rights, and being the same premises conveyed to Newcastle Paper Products Corporation by New Castle Paper Mills Company, a corporation, by deed dated October 24, 1925, and of record in the Recorder's Office of Lawrence County in Deed Book Vol. 158, page 157.

Erected on said land is the main factory building of stone and frame construction, a frame warehouse, a frame scale house and a frame house used as a dwelling house and an office and other buildings.

Among the equipment of this plant is a water power, Erie City Steam Boiler and Engine, and two complete paper making units, including one standard two cylinder type of paper making machine of a capacity of about eight tons per day and one special type machine designed for the manufacture of cellucotton of the capacity of about two tons per day, together with trimmers, cutters, engines and other equipment, and all stock, fixtures and equipment on the premises belonging to the Newcastle Paper Products Corporation except certain cellucotton stored in the warehouse on said premises north of the mill building, excepting and reserving the possession of said warehouse pending the final determination of the ownership of the cellucotton stored therein or the further order and direction of said Court.

The terms of said sale are ten (10) per cent in cash on day of sale and the balance in cash on confirmation of said sale by said Court and the delivery of deed in consummation thereof.

JOHN P. LOCKHART,
Receiver for Newcastle Paper Products Corporation.

WILLIAM McELWEE, JR.,
601 L. S. & T. Bldg.,
New Castle, Pa.,
Attorney for Receiver.

Liquidating and Disposing of the Machinery and Equipment of the Pine Tree Pulp Co.

2—Dunning & Boschert 600 ton Hydraulic Presses 42" x 18", including one large and one small D. & B. Triplex pumps complete with high pressure pipe, accumulator and fittings.
2—94" Union Iron Works single press, having 36" dia., 96" face cylinder moulds.
1—72" single press, 36" dia., 74" face cylinder mould.
2—4 pocket pulp grinders, 60" x 28" stone, Union Iron Works.
1—Synchronous Motor, 1200 H.P., 240 R.P.M., W. E. & M. (22), 2200 V., 60 cy., 3 ph., control panel 73B923.
1—D.C. generator, 18 KW., 100 R.P.M., 125 V., S. K. & M.
Impco Rotary.
Impco Tailing.
Impco Knotter.
Pumps, Motors, etc.

R. W. MAYER
South Gardiner, Maine Jl-28

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Harrison 2840-41-5557

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Paper Stock Co.

Paper Manufacturers' Supplies

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Fourdrinier Wires, all widths up to 300 inches.

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Established 1904
82-92 Beaver St. New York

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Manufacturers of
SUPERCALENDERED
and
MACHINE FINISHED BOOK
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PAPERS

Offset, Envelope, Bond, Writing, Cover and Music Paper, High Grade Coated Book, Index Bristol, Post Card, Kraft and Label Papers.

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The Paper Trade Journal publishes the happenings of interest in the Pulp and Paper Industry—Covers it completely is saying it a little clearer.

To reach buyers in this field, advertising in these columns can carry your message to many that are interested in your products.

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Your Card in This Space
Will Bring Results

Finest Facilities in Central Territory

We manufacture all grades of Quality Box Board, specializing particularly in Patent Coated Boards. With a capacity of 125 tons daily, we meet the largest requirements promptly. Inquiries are invited.

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BEST GRADES OF

English China Clays

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Manitowoc Eng. Co.
Valley Iron Works Co.

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Manitowoc Eng. Works.

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Emerson Mfg. Co.
Hermann Mfg. Co.
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Walmsley & Co., Limited, Charles (Canada)

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Taylor, Stiles & Co.
Valley Iron Works Co.

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Little, Inc., Arthur D.
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Miner-Edgar Co., The
Vanderbilt Co., R. T.

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Green Bay Barker Co.

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Blaw-Knox Co., Pittsburgh
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COGS
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Waldron Corporation, The

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Hamblet Machine Co

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Moore & White Co.

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Jeffrey Mfg. Co.
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Bird Machine Co. (Pulmax Drive Div.)
Link-Belt Co.

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Moore & White Co.

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Nash Engineering Co., The
Walmsley & Co. (Canada) Limited, Charles

DRYERS
Biggs Boiler Works Co.
Manitowoc Eng. Works.
Walmsley & Co. (Canada) Limited, Charles.

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Locke Regulator Co.

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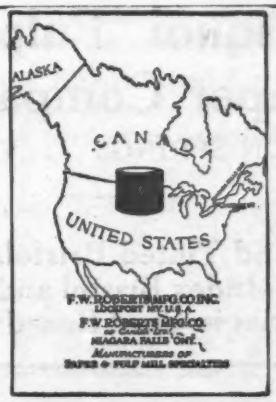

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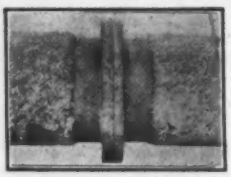

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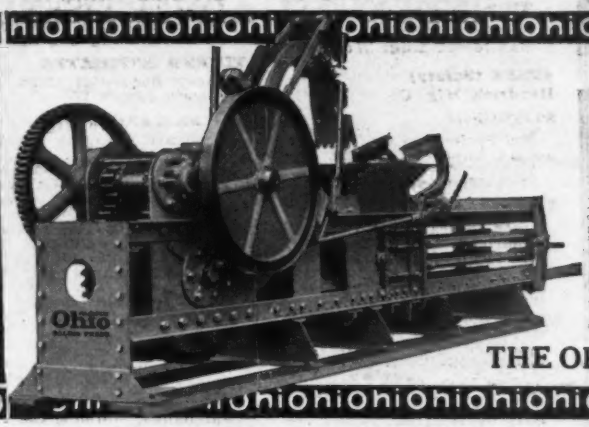

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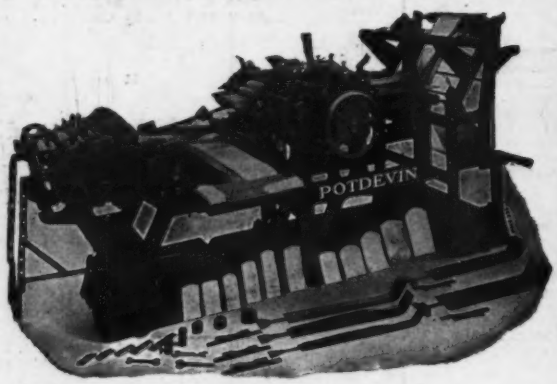

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